THE BUILDER

A RECORD OF ARCHITECTURE AND CONSTRUCTION.

WITH WHICH IS INCORPORATED THE "BRITISH ARCHITECT."

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CHARING CROSS.

MOST London improvements have germinated downwards from the controlling authorities, arousing in the breasts of the public varied feelings, be it gratitude, resignation, criticism or exasperation. The special interest of the great Charing Cross improvement (we use the epithet advisedly) lies in its vitality, arising out of a comprehensive desire for it as the expression of an educated public opinion, which is forcing itself gradually upon our controllers. Charing Cross is in the air. Kent alone puts her convenience before London's need, but even Kentish convenience may be served and preserved.

The railway engineers of earlier railway development days have laid more than one heavy burden upon Thames-side. It is safe to say that no one to-day would have dared to set up the outrage of a Charing Cross, Blackfriars or Cannon-street railway bridge; but even amongst these Charing Cross may claim priority of offence, not only because of what it is, but also of where it is. This mass, not only of ugliness but of feebleness, now propped in its tottering by a new Act of Parliament, spans here at the very axis of the great river bend one of the real opportunities of our City. Something has to be done. Definite action before next August, when the Act takes effect, is essential, if all the interest and enthusiasm are not to be in vain.

Just as Waterloo Bridge expressed the nation's gratitude over the triumph of the Napoleonic wars, the fitness, in the opinion of many citizens, of another great and much-needed bridge over the Thames in the heart of London for an Empire War Memorial lends further colour and emphasis to the need of an early decision upon this crucial problem. Students of the project are agreed as to the need of a road bridge to replace the present unsightly structure. Opinions vary as to the alignment and level best suited to meet the practical requirements and to serve the artistic needs. Two main considerations predominate, not, perhaps, necessarily compatible—(1) Traffic, *i.e.*, public conveyance; (2) Seemliness, *i.e.*, public amenity. There is also a not unimportant third, namely, finance, *i.e.*, public pocket.

In addition to the existing streamlines of traffic, we have to consider the increased and increasing volume treated by another transpontine terminus, with improved suburban connections and a Channel Tunnel in prospect. At the same time be it remembered that South-Eastern Railway traffic, per Charing Cross, will tend to follow nearly the same streamlines as heretofore, and actually the same if the bridgehead is at or near the Eleanor Cross. But, on the other hand, a considerable amount of South-Western traffic which now has to reach Waterloo Station by the circuitous routes of Waterloo and Westminster bridges will concentrate upon the new bridge. This traffic will be derived from a large angular area roughly defined by diverging lines drawn from Trafalgar-square to Holloway and Willesden. The new bridge would thus create a great north and south stream of traffic, which has to cut across or combine with the existing streamlines. The actual bridgehead being the point of inflow and outflow of transpontine traffic, it will seem essential to many that that point be removed as far as possible from the present heaviest cross streamline, viz., that of the Strand, already so inadequate even to meet its present needs, and it would follow from this point of view that space for concentration after, or for dispersal before, any point of the main cross streamline is reached is secured only by thus divorcing the bridge-head from immediate contiguity with the Strand.

The Surrey approaches are somewhat more elastic, being obviously dependent upon the site chosen for the projected new terminus. Several interesting schemes have already been set forth for this, but none has yet been backed by railway authority. That such a terminus, which must be high level, should be conveniently linked up with Waterloo Station seems obvious, and a position south of York-road and Stamford-street is indicated. This is the natural one also for picking up the present South-Eastern track in its approaches to a new terminus.

The Embankment traffic must also have attention. That which passes to and from Westminster south of Northumberland-avenue is negligible, except the tramways, and it is obvious that these cannot possibly cut right across the transpontine traffic. Either the bridge must clear the tramways or the tramways must pass under the bridge abutment if on the river bank. This latter would be possible by sinking the tramway rails about 10 ft. below their present level, the northern abutment being necessarily 13 ft. above the present Embankment level to meet the river needs. Alternatively, it has been proposed that the tramlines should pass over the new bridge from the slightly-raised embankment level and thus above Westminster Bridge altogether. The bridge approach involves a rise in the road level at the abutment of 4 ft. above the main entrance of the National Liberal Club. The suggestion has been made to form a covered tramway station connected with the Underground railway station, and this seems a useful proposal. Finally, under this head the trans-Embankment traffic must be considered. The Surrey shore ought to be comparable with, and can easily surpass, its opposite neighbour in monumental dignity. But such a development will involve an easy bank to bank interchange. The new bridge must supply this need, or the Surrey development will be indefinitely hindered.

Waterloo Bridge, at present queen of our London bridges, must be at least rivalled by any new structure. But, fine conception though it is, two criticisms have been levelled at Waterloo which are not easily set aside, and may serve as warnings. It interferes overmuch with the prospects beyond it on either side. The long slope to reach the normal level of Waterloo-road is neither monumental nor convenient. It has proved itself antagonistic to the better development of the Surrey shore. Such a slope would be perhaps even more awkward in connection with a contemplated high-level bridge, owing to its position in regard to the high-level termini. It would seem to be indisputable that, *caeteris paribus*, the effect and convenience will be best served by the bridge being built as near to Westminster as conditions allow. Thus only neither the Adelphi nor the Embankment Gardens need be encroached upon, both of these being considerations of much consequence.

We publish two striking photographs, just taken, to show the effect of a heavily-bridged area. Waterloo Bridge swings in a single arch across the Embankment only, and is narrow at that, and a good point here is made by the advocates of a low-level bridge that arch after arch of a considerable land viaduct at least 100 ft. wide on both sides of the river is a different problem. In this connection it may be noted that from the Eleanor Monument to the Embankment is 950 ft. From bank to bank across the river is 850 ft. From a new southern embankment to York-road is 1,200 ft., or to a junction with Waterloo high level, 1,500 ft. Whence it appears that a high-level viaduct from the Eleanor Monument to Waterloo Station high-level will be 3,300 ft. long, whilst a bank-to-bank bridge will be only 850 ft, an important financial consideration.

A good many attempts have already been made to solve the problem, the most ambitious, perhaps, being that by Mr. Murray, which we illustrate in this issue. We also publish Mr. Carõe's lay-out as a characteristic low-level scheme

We conclude by calling attention to one further point that is made. As seen from Westminster Bridge, neither Waterloo nor Charing Cross railway bridge cuts off the City prospect which rises over it. But the railway bridge cuts off Waterloo, whereas a low-level structure would not entirely do so. As we descend from Westminster Bridge and walk Citywards along the Embankment, the City prospect is wholly obscured by the railway bridge, and would be so equally by a new high-level viaduct. When we are eastward of Charing Cross, Waterloo again is near enough to block out the distance beyond it. From the single point of view of beautifying the river and displaying its sweep and character, preference can hardly be withheld from the bank-to-bank structure. It remains to be seen whether considerations of a practical nature enforce those in its favour or not. We have not dealt with the railway problem. But that this ought to be solved by the development of the Tube system connecting Waterloo and the new terminus with Charing Cross and also with the northern termini, would seem to be essentials of a successful treatment whereby Kent may be appeased and Surrey gratified.

NOTES.

A Theory of Proportion in Art.

The address delivered by Mr. Hambidge at the R.I.B.A. last week had much in it that was persuasive and interesting, and had he been content to pursue his inquiries for their own sake, instead of loading them with a burden which they cannot carry, we should have felt reluctant to criticise. On the contrary, anything that gives more precision to our thinking on art, or that can facilitate its production, is worthy of all respect. We have never doubted but that beauty was subject to law. We accept Mr. Hambidge's measurements of the Greek vase as demonstrating "logical and direct sub-multiples." And if we can supersede for the vague symbolism through which we speak of beauty, a more penetrating and precise vocabulary, it will be much to the advantage of life and art. When we speak of art as creative, intuitive or of vision and genius, we are not much nearer precision of language than when we describe an epidemic as "influenza." But we do not for that reason find it easy to reach a more precise definition. Because it is found that the philosophers who explain art generally leave art out of their calculations. And this we fear tends to be the case with Mr. Hambidge. He offers us a remedy for the ills of art before he has understood its nature; he mistakes effects for causes, and while claiming the supreme importan e of his theories to art—is impatient of art when it gets in their way.

An Old House at Worcester.

The R.I.B.A. Gold Medallist.

The decision of the Council of the Royal Institute of British Architects to present the Gold Medal this year to a French architect will be welcomed generally; and in their nomination of M. Chas. Girault, member of the Institute of France and Corresponding Member of the R.I.B.A., no better selection could have been made. The cordial relations which have for so long existed between our own architects and those of France, and our appreciation of French art, are sufficient justification for occasionally conferring the Medal on a Frenchman, but following the great war, when the two nations were so intimately linked together to safeguard the liberties of the world, there is a special appropriateness in the Council's decision, which will, no doubt, be unanimously endorsed by all the members of the Institute.

Foreign Travel.

We agree with much that Mr. C. F. A. Voysey says in his interesting letter on "Foreign Travel," which we print elsewhere, and not least as to the importance of self-reliance, though not to the student of creative art alone. But why should this faculty, properly developed, be greatly impaired by reference to other men's works in the

Boston Stump, from Sluice Bridge.

[The sketches given on this and the next page are by Mr. Gordon Hemm, Demonstrator in Architectural Draughtsmanship and Design at the Liverpool School of Art.]

same direction? Self-reliance, if it exists at all—and if it does not, there is much more point in Mr. Voysey's observations—may well be strong enough to resist "the fascination of the museums" and "tips from other travellers"; it may even be strengthened thereby, as it may be by foreign travel. In any case, it is difficult to see how we can "closet the mind in a vacuum, wherein nothing shall obtrude but the knowledge of requirements and conditions."

Cost of Building Materials

It is of interest to note that two of the sub-committees appointed by the Profiteering Department of the Board of Trade to inquire into the cost of building materials have got to work, one committee sitting to consider the price of bricks, stone, and clayware, and the other the price of timber. The members of the first-named committee are Mr. Vincent Harris (architect), Mr. J. Laing (public works contractor), Mr. J. W. Lorden, M.P., Mr. Sidney Taylor (Building Trades' Operatives), Mr. W. Gallacher (Committee on Trusts), and Mr. T. Johnstone (Committee on Trusts and expert in the pottery industry). The Timber Committee is as follows:—Mr. Digby L. Solomon (architect), Mr. A. J. Cross (quantity surveyor), Mr. J. W. Lorden, M.P., Mr. W. F. Wallace (builder and contractor), and Mr. W. Gallacher (Committee on Trusts). We have pleasure in giving publicity to this information, as we have here some evidence of the recognition of the claims of qualified men to serve on committees of inquiry. It is not often that the claims of architects are recognised in this manner, and in a matter which so vitally concerns the profession it is all to the good that an architect is sitting on each of these committees.

Skyscrapers.

There is little to object to in what Professor F. M. Simpson said in speaking of skyscrapers in his interesting lecture on "The Trend of Architectural Thought in England To-day," a report of which appears elsewhere, though we may remark that the towers of churches and cathedrals are not what is generally meant by the word "skyscrapers." Much variety and interest are given to a town by a broken skyline formed by such buildings, but "skyscrapers" packed close together like sardines on either side of a street are another matter and as Professor Simpson said, "they will not do for London." The picturesque effect obtained by skyscrapers—and how great that effect can be is strikingly realised by anyone approaching New York from the sea—is little compensation for the light and air conditions in the streets themselves.

The British Industries Fair.

The fine displays of merchandise at the Crystal Palace seem very abundantly to justify the action of the Board of Trade in promoting the British Industries Fairs, for a wonderful amount of business is resulting from the opportunities so offered for buyer and seller to trade with the samples well displayed. Some of the displays of pottery are at last fairly worthy of the enterprise of some of our leading firms, and one may now reach a better appreciation of the extent and variety of that enterprise. We still feel that the artistic quality displayed in pottery and toys bears a very small ratio to the amount exhibited, and for this we fear something must be credited to the taste, or lack of taste, of the public, which it is aimed to follow instead of lead. Some of the gorgeously coloured decorative pots should surely be objects of dislike rather than admiration. We see little sign of any successful attempts to provide simple, inexpensive pottery which should be as good in design as the ancient Greek, or even of the best modern Dutch. Some of these exhibits are more fully referred to on another page.

The Concrete Roof Accident, Birmingham

The facility with which operations in concrete may be carried out are well known, but it must not be forgotten that there are certain indispensable conditions which must be complied with if failure is to be avoided; among these are conscientious workmanship and skilled supervision on the job. The imperative need for the latter was illustrated in the fatal accident which recently occurred in Birmingham and which is noticed elsewhere in this issue. Deplorable as this accident was, it

Stokesay Castle.

cannot, in all fairness, be laid to the charge of concrete as such. The result of the inquiry, which was very complete, was embodied in the rider to the verdict; this clearly showed that the accident was due primarily to lack of such technical supervision as would have ensured strict adherence to the design and specifications.

Mr. Ernest Newton, R.A.

With regard to the notice respecting Mr. Ernest Newton, appearing on page 241 of our last issue, we are glad to hear that Mr. Newton is making slow but steady progress towards recovery. We have pleasure in making this contradiction, as all members of the architectural profession will have in reading it.

The Market Place, Ripon.

GENERAL NEWS.

Professional Announcement.

Mr. F. A. Culliford, A.R.I.B.A., P.A.S.I., architect and surveyor, has removed from 33, Furnival-street, E.C. 4, to 3, John-street, Bedford Row, W.C. 1.

Smoke Abatement.

Dr. Addison, the Minister of Health, has appointed a Committee to consider the present state of the law as regards the pollution of the air by smoke and other noxious vapours, and to advise what steps are desirable and practicable to diminish the evils still arising from such pollution. Lord Newton will be Chairman of the new Committee, and the other members are Captain Hamilton Benn, Prof. J. B. Cohen, F.R.S., Mr. E. S. Curphey, Chief Alkali Inspector, Ministry of Health; Sir John Lithiby, late Legal Adviser to the L.G.B., Mr. J. F. MacCabe, Local Government Board, Ireland, Mrs. Gilbert Samuel, O.B.E., Mr. E. D. Simon, Manchester City Council, Bailie W. B. Smith, Glasgow City Council, and Mr. F. J. Willis, Chief Assistant Secretary, Ministry of Health. Mr. E. C. H. Salmon, of the Ministry of Health, will act as Secretary to the Committee, and any communication should be addressed to him at the Ministry of Health, Whitehall, S.W. 1.

Roman Remains at Colchester.

Some interesting Roman remains are being discovered at Colchester, in the Castle Park, a short distance from the remains of the Roman wall which formerly encircled the town. Some time ago the complete plan of a Roman villa became visible on the grass laid out near the bandstand in the park, and excavations were then made. Little of interest, however, was brought to light; but a more searching examination is now being made by the Morant Club, which has been permitted by the Colchester Town Council to re-open the ground, with the result that several interesting discoveries have already been made, and others of more importance are expected to be revealed shortly. It is believed that there were many important Roman buildings in the area under examination. Several tessellated floors have been unearthed; also foundations of walls, a quantity of Roman pottery, coins of the third and fourth centuries, some glass, an urn with covering tile, &c.

New Parliament Buildings, Ottawa.

Although it will not be finally completed for another two years, the new Canadian Parliament building at Ottawa is now sufficiently advanced to permit the two Houses to assemble in it. The old building was destroyed by fire in 1916. The new building, says the *Times*, is four stories high, and retains as far as possible the style of architecture of the old building, which was stated to be the best specimen of fourteenth century Gothic in North America. The main entrance will be emblematical of the British Empire. The lobbies, halls, entrances, &c., are all monumental in character, with stone arches carried on marble columns, stone vaulted roof, and traceried windows. The two Chambers are lined with stone, with an oak panelling base. Nepean sandstone has been used for the construction, and the building will be fireproof. Mr. John A. Pearson is the architect, and with him is associated Mr. J. O. Marchand.

H.M. Office of Works' Art Club.

This thriving club, which is rapidly increasing in membership, held another successful meeting on Monday last, when Colonel Strange read a paper on "Japanese Art." The members of the club hold, with Viollet-le-duc, that there is only one art, and that what are sometimes called different arts are merely branches, there being three main ones; firstly the graphic arts, in which objects are represented on the flat, either with or without colour; secondly the round art—sculpture; and thirdly, the arts that appeal to the ear—oratory, music, etc. Literary and music sections are being formed and on April 15, a lecture will be given on "Scriabin, a new master in music," with pianoforte illustrations by Aston Burral. It is to be in Room 70, first floor, at six o'clock.

Suffolk Regiment Memorial.

A memorial is being erected in St. Mary's Church, Bury St. Edmunds, in memory of men of the Suffolk Regiment who fell during the war. The memorial, which has been designed by Mr. W. Pite, consists of a cenotaph in marble and alabaster.

COMPETITION NEWS.

Brentwood.

The design of Messrs. Barker & Kirk has been placed first in the limited competition for a memorial assembly hall and other additions to the Brentwood Grammar School, Essex. Mr. H. P. Burke Downing, F.R.I.B.A., of Westminster, was the assessor.

Sheffield.

For the City Council.—Designs for war memorial halls. The selected architect will be remunerated according to the schedule of charges issued by the R.I.B.A., and premiums of £250, £150 and £100 will be paid to the authors of the designs placed second, third and fourth. Sir Aston Webb, P.R.A., and Mr. F. E. P. Edwards, F.R.I.B.A., will act as assessors. Sending-in day, July 31. (See our advertisement pages to-day.)

Bradford-on-Avon (Wilts.).

For the War Memorial Committee.—Design for a war memorial. Premium 25 guineas. Sending-in day, May 8. (See our advertisement pages to-day.)

Chatham.

For the Borough Council.—Designs for a lay-out for the housing scheme. Sending-in day, March 8. (See our issue for January 30.)

Accrington.

For the War Memorial Committee.—Designs of a war memorial. Premiums, £100 and £50. Sending-in day, March 14. (See our issue for Feb. 13.) The Royal Institute of British Architects and the Society of Architects request their members not to take part until the conditions have been approved.

Hornsey.

For the War Memorial Committee.—Designs for a war memorial. First premium, 30 guineas; second, 20 guineas; third, 10 guineas.) Sending-in day April 20. (See our issue for Feb. 27.)

Houghton-le-Spring.

Members of the Society of Architects are requested not to take part in the Houghton-le-Spring secondary school competition without ascertaining that the conditions have been approved.

Charing Cross Bridge from underneath.—From a recent Photograph.

CORRESPONDENCE.

Foreign Travel.

Sir,—I am grateful for your courteous note on my letter in the last issue of the *Builder*, and I am glad to find we are so much in agreement. Why we differ, I think, is because too little distinction is made between the creative faculty that is based upon a general culture and that inventiveness which superficial minds acquire through intercourse with existing works.

As a young man I endeavoured to resist the fascinations of the Museum when I had to make a design, because I felt it was so much easier to go and see how someone else had worked out requirements and conditions than go through the labour of working them out myself in my own head and heart, and the fact that it was easier to make use of other men's efforts seemed to me to be detrimental to the development of my own faculties.

The knowledge of the possibilities and limitations of any material must, of course, involve the study of past examples. But at the moment of creative effort, self-reliance is vastly important to the student of creative art. Anyone may learn monkey tricks, but serious creative work must be done by the calling up of all the physical, mental, and spiritual forces of the whole man. True culture surely comes from within, not from without. And I do seriously contend that this thorough exercise of all our faculties is greatly impaired by reference to other men's efforts in the same direction. Our memory is crowded already with visions of countless conventions and our taste is grounded largely on sentiments attaching to what we remember. It is therefore all the more necessary for us to closet the mind in a vacuum wherein nothing shall obtrude but the knowledge of requirements and conditions. Tips from other travellers are treacherous.

C. F. A. Voysey.

The Institute, Society of Architects and the Bridgwater Competition, or "Esse quam videri."

Sir,—Friday morning and the arrival of the *Builder* always brings with it something in the nature of a birthday feeling to me in my western wilderness, and since your issue of the 27th ult. I have been supremely uplifted with happiness. For nothing is more depressing to a would-be reformer than that his seeds should fall on fallow ground, whereas in Mr. Butler's powerful letter I find much which should clear the ground for a more constructive and forceful policy.

As doubtless he will agree, when rebuilding it is wiser to pull down the old before reconstructing, though possibly storing portions archæologically interesting in a museum for the antique. Mr. Butler has been somewhat precipitate, perhaps, in jumping to conclusions, when he states that, because I inform him and the Secretary of the R.I.B.A. that there were 30 entrants for the competition they had barred, I am, therefore, "content to let professional bodies carry on work without giving the benefit of my support." I offer the information as a proof of the futility of the R.I.B.A. and Society veto, in failing to achieve the desired end; and as yet another proof of the contention that neither of these bodies is representative of the whole profession. As to my earnestness to give support, rather than permit these bodies to deceive themselves I would wish them destruction first in order that a body which does represent may rise from their remains.

I would draw Mr. Butler's attention to the fact that I endeavour to answer each and every point which he makes, with efficient clearness; and that I am strongly disinclined to attribute to one of his forceful disposition a desire to reply only in part, overlooking matter which is perhaps not so easily explained. He expresses disappointment at my constructive suggestions, but does not explain his failure to undertake those preliminary few that I have made. Again, I desire him to restrain his impetuosity and to endeavour not to develop more heat than we are capable of containing to carry us comfortably towards our goal; that we may go together, hand in hand, calmly over stepping-stones which I well know him to have already trodden, until we come to the point where he slipped and fell, when mutually supported we may reach the other bank; where being arrived, it will then be impossible for anyone to say that "to strike one off the rolls 'of our new community which we shall found,' is no punishment, and no deterrent to others." For it will cost such a one £100 a week.

Mr. Shirley raises a point which, could it be achieved, might be of great value at this stage; viz., that a census of opinion be taken of the members of these two bodies as to their individual satisfaction at their representation.

"Invicta" re-discovers that much nonsense has been written on housing, and that borough surveyors are receiving succulent nourishment from the architectural young. Whilst you yourself, in your editorial of the 20th ult., quote Mr. Atkinson, who in so short a sojourn as a ten weeks' visit has discovered that the American public takes an interest in architecture. Having worked in that country for ten years, from New York to San Francisco, I offer the information that this is because the profession is represented by an active modern body, who have amongst other things made it their business to see that a new building is rarely built or even projected without being illustrated and well written up in the daily Press. In our super-sensitive country, where a man must wear kid gloves, though his hands may not be overclean, and where, as Mr. Shirley says, members of the select undercut their brothers, this would doubtless be looked upon as vulgar, unprofessional advertising, though I have yet to learn the wrong in asking for work.

I am indebted to Mr. Butler for his implied offer; and whilst thanking him, would reply that until I meet with an association whose motto may truthfully be "Esse quam videri," I feel that I can be of more use as nobody's dog—outside. And whilst also thanking Mr. Butler for his kind demonstration of my duty, I would draw his attention, as gently as may be, to the fact that as yet my signature is unadorned with any title or description.

For his information, and that of many others who have stated their interest, I enclose a few notes on the Architects' Licence Law as enacted in the U.S. America; and though fearing that this letter has already unduly encroached on your valuable space, I hope that should you find room to publish them in another part it may serve as the nucleus for the formation of a Society for the legalising of licensing architects in England, whose motto may truthfully be "Esse quam videri."

H. Bryant Newbold.

[*** We hope to give Mr. Bryant Newbold's article in our next issue.—Ed.]

Architects' Fees.

Sir,—The position which Mr. Shirley suggests would arise as one result of "free trade in design" already exists if there is any ground for his good-humoured "hit" at the Society. In regard to the principle involved, it would be a very dull world if all were agreed on every point, but I am pleased to see that Mr. Shirley is an advocate of compulsory registration on the ground that it would be the only effective means of enforcing professional discipline. This also was advanced as my personal opinion on this point eight years ago, but lest there should be any further misunderstanding on the matter, may I say that, when airing my personal views in your issue of January 20, I thought I had made it clear that they were not those of the Society of Architects. At the same time, I quite see the point so courteously raised by Mr. Shirley, and regret the unintentional slip.

C. McArthur Butler.

Will the correspondent signing himself "Architecture" forward his name and address, not necessarily for publication? Other letters are unavoidably held over.

Charing Cross Bridge. From a recent photograph.

DRAWINGS AND ARCHITECTURAL EDUCATION.

We have received the following interesting communication from Lieut.-Colonel H. P. Cart de Lafontaine :—

"After an absence of five years from England, and the inevitable consequence of separation from that association with architectural thought which such absence entails, one comes with a curiously unbiased mind to examine the work submitted this year for the Institute prizes, as representing the aims and aspirations of the younger disciples of the "Mistress Art." Influenced (in common with all those who look for the time when architecture shall be a truly living national art) by the eternal striving towards the realisation of an unattainable ideal, one was, I think, singularly disappointed; the very elaboration, and, in most cases, technical excellence of the work exhibited at the R.I.B.A. galleries, is, in itself, a danger signal.

"It would appear that our methods of architectural education tend to produce beautiful pictures rather than to give students that basic knowledge of their art which should enable them to conceive concrete architectural forms, expressed through the medium of fine draughtsmanship, not as an end in itself, but merely as a convenient method of indicating the conception of the artist. In precisely the same manner the musician "writes" music by means of certain conventional symbols, or the author uses words, to convey a definite series of impressions, grouped according to some definite plan already fully conceived in the mind of the artist as regards its general form. One observes a growing tendency to adopt methods of "rendering" which are mere imitations of French examples; insincere because not based on national character, adopted only because this method of presenting the author's conception has been found to be successful in the past, lacking (for the most part) in the creative genius, scale, and sense of proportion which underlies and justifies work done in the French *atelier*. In this connection it is, perhaps, worth mentioning that many eminent French architects, intimately connected with the training carried out at the Ecole des Beaux Arts, have expressed their admiration of the work of such masters of our art as Norman Shaw, and consider that the method of setting forth an architectural conception by a line drawing, with shading limited to a simple wash of Indian ink (where this is necessary to appreciate the relative value of the component parts of the design) is infinitely to be preferred to the *indications* given by an ingenious use of the paint-brush, which tends to reduce the correct delineation of architectural form to a matter of apparently secondary importance.

"For some time past it has been my privilege to advise and direct the work which is being carried out in France by the architects of the Imperial War Graves Commission, who are engaged on the preparation of designs for the permanent architectural treatment of the war cemeteries in France and Belgium; one cannot fail to be struck with the difficulty which many of these young architects experience in the initial stages of the conception of a problem in pure design, where all those complex and distracting features due to the exigencies of modern civilisation are eliminated (save only the inevitable limit of cost), and where it is essential to depend for the final effect on good proportion and scale rather than to seek for inspiration in any particular "style," or the mannerisms of a period.

"It would, I think, be generally conceded by my brother architects who are engaged on this work that the training they have received has proved inadequate to help them to deal with the creation of fine architecture when reduced—as in this case—to its simplest expression. Does not this significant fact, when considered in conjunction with the preceding criticism, indicate that there is a growing tendency to overestimate the importance of traditional forms, pedantic ornament, and a slavish attachment to the "orders" of the "accursed Vitruvius," and does it not show that our architectural training must be revised? Does it not indicate that we attach too great an importance to the outward form of the styles of Palladio, Wren and Chambers, but have failed to impress on students the necessity for each one of us to analyse for himself the reasons which make buildings fine and noble architecture, or hideous and meaningless monstrosities?

"If, then, these conclusions are logically to be deduced from the evidence before us, the remedies would appear to be: Firstly, the analytical study of old buildings—not from books or illustrations in a library or studio, but by actual measurement and sketches; secondly, the cultivation of a sense of form by drawing from the round and "life studies"; and thirdly, the cultivation of the power of expression and analysis by the encouragement of written descriptions and essays dealing with actual buildings, and the general questions of proportion, harmony, colour, form, &c.

"I trust that these candid criticisms may stimulate discussion of a problem which is of vital interest to all of us who believe that all is not for the best in the best of worlds, and that others more competent than myself may seriously consider this question."

[This scheme provides for a bank-to-bank bridge with river headways equal to those of Westminster Bridge. The tramway is passed under the Middlesex end of the bridge abutment with an underground tramway station connected with the Metropolitan and Tube railways. The area now occupied by Charing Cross Station is largely utilised for building, and is traversed by a new street connecting the Strand with the new bridge, at the head of which a comprehensive tube station is suggested. On the Surrey side, the suggested new station is planned symmetrically with Waterloo across the Waterloo Road, with a platform glazed over between the buildings. A great colonnade in the form of an amphitheatre masks the glazed area and encloses St. John's Church. The station approaches are carefully studied and sloping roadways are connected up to the Surrey side of Waterloo Bridge from the York-road and Commercial-road levels. Stamford street is carried through to Blackfriars Bridge. Wharfage for the Surrey side is planned by means of docks.]

THE ARCHITECTURAL CRAFTS.*

The difference between building and architecture is the amount and quality of the heart put into the latter. Take, for example, the Pyramids in Egypt and the Egyptian temples. The Pyramids represent a King's idea of greatness, a purely personal thing, he wants to have a monument which will last for all time. The pyramids are impressive in a sense, but at the same time one feels that there is a curious selfishness and a want of general interest in them. If they are compared with the Egyptian temples, the difference is at once seen. In the temples are enshrined the nation's hopes and fears, what it thought of life, what it thought life was, and then what it thought must be the life to come. To appreciate architecture one has to be able to examine and to appreciate the quantity of heart and mind there is in it. Looking at past architecture one has to know what were the aspirations of the people who built those things, and architectural building is an exceedingly subtle thing in the way that it represents and reflects the ideals of the people of the time. It is built for such and such a purpose, without any political or abstract bias. It is built for the expression and the feeling and the ideal of that nation at that time. It is absolutely impartial, absolutely trustworthy, and one cannot go behind it. The difficulty is to be able to read into it its true meaning, and in questioning past architecture you really want to know a great deal of the history of the time. Westminster Abbey is an example of the work of groups of craftsmen, and is a building which expresses the more it is looked at the feeling of appreciation of the material they were dealing with. It also has an elasticity, and one can imagine Westminster Abbey being enlarged; in fact it was—a chapel being added in Henry VII's time. St. Paul's, on the other hand, gives an impression of completeness of the design. It is very cultured, very perfect, but it is very rigid; one cannot imagine it bursting out at the east end and having a chapel put on. There is the dominance of one single mind. It is quite true that while the Cathedral was building it was insisted, in the time of Charles II, that a couple of chapels should be put at the west end, and they were put there at the insistence of his brother, who became James II.

Acknowledged masterpieces of architecture of the past in the streets have a kind of completeness, a feeling of a master mind, who wants to have it done just so, that is not felt in the Gothic style.

It is very important to have some elementary knowledge about construction to see how far these buildings really carry out what they pretend to do. The early primitive construction is the raising of two piers and putting a beam across them; the Chaldean architecture is that, the Egyptian architecture is that, the Stonehenge architecture is that. The Greek temple is the same type of construction, a great deal disguised by the ornament and sculpture which is put on it, which rather has a tendency to take the mind off that particular type, but it is not essential to the lintel construction. The Roman construction, so far as outward appearance goes, is lintel, and it was to a very large extent lintel until they invented and used monolithic concrete construction. In making their vaults they ran up as quickly as they could and as slightly as they dared a framework of tiles or brick, and then threw in concrete that set and formed these impressive permanent buildings. So far as their decoration is concerned, I always think the Roman architect must have used a lot of craftsmen who had ratted out of Greece, who were ready to do anything, and they supplied all the carving, the cornices, the pilasters and columns, and a great deal of the useless decoration which has really very little to do with the structure of Roman buildings, but which has to do a great deal with Greek. The column is essential in the Greek temple, but the column in Roman work and the pilasters are not always integral; they are put in partly to preserve the tradition and partly for appearance sake. They put in an arch underneath the lintel to give it the necessary support, and then, because they did not want all that material wasted, they cleared out everything beneath the arch, leaving an arcade, punctuated by two columns or pilasters, with the entablature across them, the arch serving as a strut.

Gothic architecture is an entirely different order of things. That constructs a force going one way, counter-balanced by another. The flying buttresses at Westminster Abbey coming up from the aisles and reaching to the nave walls, must be looked upon as not such quiescent things as they seem to be. On the contrary, they have day and night for six hundred years been resisting the thrust of the stone vaults of the Abbey. All through Gothic architecture is found this counter-balancing of one force against another. In Gothic architecture they used one experiment after another. Take the object of a flying buttress; they built two walls and put a vault to cover them, and the vault at once threw the wall out, and then to the bit that was left they put up a wooden shoring. That was temporary, and to make something permanent they collected the forces of the dead weight of the mass of masonry in the vault, that is, collected and brought it into focus, so that the stone flying buttress could be put against it without wasting stonework; it could be got to a precise spot and the shore put against it. It was then found that unless that was very substantial the buttress would be overthrown. The answer to that they discovered was to make it a very weighty affair; and that resulted in a lot of room being taken up inside and preventing the windows getting properly lighted. They then discovered the right thing to do was to substantiate it above the flying buttress by putting pinnacles on, and thus they got the strength required without infringing too greatly on the sides. You may conceive the action of the flying buttress as that of a man using all his force to keep closed a slight door behind which is a powerful and hungry tiger, eager to emerge. That is the kind of consideration which has to be brought to bear in viewing Gothic architecture.

It is interesting to notice how the forms of building changed after the first, second and third Crusades. A large number of people went out with the Crusades, and a certain number came back, having learned a great deal about military architecture. When they came back the situation in England was very much changed. The cities and their populations were a sort of commune, and the big people either lived in the city or outside in castles. These barons had been to the Crusades, and came back impressed with what they had seen in the way of military architecture. This was the reason for Norman architecture, which is pure mass passive against attack, being changed for the thirteenth and fourteenth century architecture, which is aggressively defensive; it has overhanging parapets, battlements, &c. These attributes occur also on the church tower. The reason why a church tower is battlemented is that in times of distress and attack the church was the stronghold of the people; they retired to the tower to defend themselves, and the battlements were very much wanted. We are apt to assume that a great many of these things were put in because of the poet's imagination and his fancy. A certain amount of that is true, but really it is based on actuality. They used these features afterwards at the same time as forms of decoration; we get them so inside the church. The little buttresses with crockets, tracery, &c., on the rood-screens and bench ends can be of no structural value at all, but they are reminiscences of the buttresses that have been put on either to the church tower or to the baron's castle.

Another point of view is the influence of material on building, and the facilities of transport, which tend nowadays very greatly to obliterate local characteristics, but in appreciating what are called the old-fashioned methods of building, we want not merely to look upon them with a pathetic interest, but to realise how sensible they were. In Worcestershire, for instance, there was no clay suitable for making into bricks; and the usual building materials could be obtained only with difficulty. but as it was a very woody district the simple thing to do was to build with wood. They used exceedingly massive beams not because they thought massive beams looked magnificent, not because they thought they were going to last for all time, but simply because it would have cost more in labour to have squared them and sliced them smaller. There is a very fine massive beauty about them; they are beautiful in the old buildings, and many of them have endured; a great many have decayed, and a certain proportion have been destroyed by fire, but there are a good many examples still. They are examples of straight work exceedingly to the point, exceedingly commonsense; without any particular desire to become a monument, but to be substantial, good buildings and to wear well. They are things one cannot pretend to copy, because the conditions have so changed. In stone districts stone buildings were erected. There, again, one has to appreciate the use of the stone. The stone as it lies in the quarry has got a bed, and, broadly speaking, could be used in the building as it lay in the quarry. Sometimes, however, the stone has to be put upright, contrary to the way it lay in the quarry, and then the top must be protected to keep the weather out. Where the stone has been used in this way, string courses are inserted to prevent the wet getting in to the stone behind its face, and points like that must be remembered; besides the pathos of the story, there is the architectural charm of the building from the construction. The pitch of the roof is settled very much by the material available. If it is pitched for thatch it has to be a particular angle, because it would not do to have snow resting for a long time on thatch. On the other hand, if the pitch is lowered too much the snow will lie, and with the thaw come down like an avalanche; so the right angle has to be found.

In these days we have to consider more what the present problem is. There is always an innate conservatism about things, and there is also a tendency to have nothing to do with new-fangled things. How far ought one to carry that conservatism and allow it to affect one? It is made up of the accumulated experience and conditions of people who have observed the effect of weather, of time, and the physics of materials, and have come to the conclusion that such was the right way of doing it. It keeps on changing, the process is slow; it is what might be called a funded experience, and one has to be very careful indeed in analysing it to see whether that experience is good for present conditions, or whether it has been outworn. On the other hand, there is such a tendency to try and disguise new material and make it reminiscent of past ideals. What has to be borne in mind is that architecture is a living thing; anything that lives is subject to change, and progress, because it is in response to conditions; conditions are temporal things; they vary with each age, and if these conditions change it must change with the times. It takes more than a critic to recognise some actual facts of the architect's work; it takes an artist to do it. He sees what the man is able to do, what he wants and tries to do. One assumes that there are reasons and a great deal to be said for what has been done, and one ought to see and go about appreciating the moving spirit in it; that is our duty as citizens: to take in what we have about us with open eyes, accept it, and so far as we can, be proud of it, because there is a great deal we can be proud of in this great city.

* From an address delivered by Mr. Halsey Ricardo at the Handicrafts Exhibition of the Kelmscott Fellowship.

THE Ninth General Meeting (Business) of the Royal Institute of British Architects was held at No. 9, Conduit-street, W. 1, on Monday last, Mr. John W. Simpson (President) in the chair.

Royal Gold Medallist.

It was announced that the Council had nominated M. Charles Louis Girault, of Paris, as Royal Gold Medallist for the present year.

Election of Members.

The following candidates for membership were elected :—

As Fellows.

T. L. Dale, Lincoln's Inn.
J. E. Dixon-Spain, O.B.E., Hanover-square.
A. R. Gough, Bristol.
T. S. Gregson, Bombay.
A. W. Hennings, Manchester.
B. F. Matthews, Simla.
C. Nicholas, Hanover-square.
E. M. Powers, Johannesburg.

And the following Licentiates who have passed the Qualifying Examination :—

P. G. Fry, C.M.G., Weston-super-Mare.
T. F. Shepheard, Liverpool.

As Associates.

J. Addison, Turiff.
E. W. Armstrong, Bedford-square.
P. Badcock, N.W. 4.
A. M. Bartley, Auckland, N. Zealand.
O. A. Beattie, New South Wales.
A. G. Berry, Norwich.
A. A. Betham, Bedford-square.
W. S. R. Bloomfield, N. Zealand.
G. L. Broad, O.B.E., Manchester.
C. J. Cable, Bromley, Kent.
G. M. Carr, M.B.E., Sydney.
F. M. Cashmore, W.2.
N. I. Chipman, Montreal.
F. F. Christian, Melbourne.
P. H. Cundall, Prestwich.
D. O. H. Davies, Swansea.
W. G. Davies, Bradford.
F. T. Dear, Brixton.
M. K. Draffin, Auckland.
J. H. Edgecumbe, Auckland.
C. H. Finch, Sydney.
T. F. Ford, Peckham
R. Frater, Greenock.
E. C. Gentry, Parliament-street, S.W.
F. E. Greenish, Wellington, N.Z.
H. C. Grierson, Auckland.
R. B. Hamilton, Bedford-square, W.C.
L. G. Hannaford, Kensington.
P. Hardy, Edmonton, Canada.
A. E. Holbrow, Hanwell.
P. W. Hubbard, E.C. 3.
L. F. Irwin, W.C.
F. Jackman, Yateley
W. D. Jeater, Newcastle, N.S.W.
H. M. Jeffreys, Maldon.
H. H. Jewell, Bedford-row.
O. C. Jones, E.C.
R. A. Lee, N.S.W.
B. E. Lisle, East Sheen.
J. C. McKenzie, Streatham.
R. W. Maclaurin, Gisborne, N.Z.
A. M. McMichael, Callander, Perth.
S. R. Maisey, Sydney.
H. L. Massey, W.C.1.
W. E. Masters, Golder's Green.
P. H. Meldrum, W.C. 1.
S. Natusch, N.W. 3.
A. Nisbet, York.
R. C. Nowland, Sydney, N.S.W.
A. M. Opie, Adelaide.
P. H. Pilditch, Pinner.
G. S. Reid, Bedford-square.
E. D. Reidy, Auckland.
J. E. Rhind, Inverness.
C. C. Ruwald, Sydney.
F. Sale, Bedford-square.
O. F. Savege, Hong Kong.
J. S. Smart, Sydney.
R. A. Smart, Victoria, Aus.
W. E. de Souza, Golders Green.
A. G. Stephenson, South Mimms.
R. K. Stevenson, Victoria.
R. W. Stoddart, Chiswick.
E. A. D. Tanner, Fulham.
P. E. Thomas, O.B.E., Cardiff.
S. K. Thomas, Usk.
D. K. Turner, Sydney.
K. E. Webb, Sydney.
J. H. White, W. 8.
F. H. Wilkes, Ontario.
J. W. Williamson, Salisbury.
F. P. M. Woodhouse, Wimbledon.
L. H. W. Wyatt, Streatham.

The following motion by Mr. Sydney Perks : "That in the opinion of this meeting no member should be nominated by the Council for re-election unless he has attended at least half of the Council meetings—this rule not to apply in exceptional cases, which should be explained in the *Journal*," was passed with the exception of the last seven words.

WAR MEMORIALS.

WE take the following from a summary of some of the war memorial schemes in the larger cities, which was recently published in the *Yorkshire Post* :—

Birmingham.—The memorial is to consist of two separate buildings, a Hall of Memory and a City Hall, arranged to form a commemorative group. The estimated cost of the former is £85,000, plus £15,000 for statuary, and of the latter £200,000.

Wakefield.—The schemes most in favour are a nurses' hostel at Clayton Hospital, and the restoration of the old "Six Chimneys" as a men's institute, at an estimated cost of £12,000.

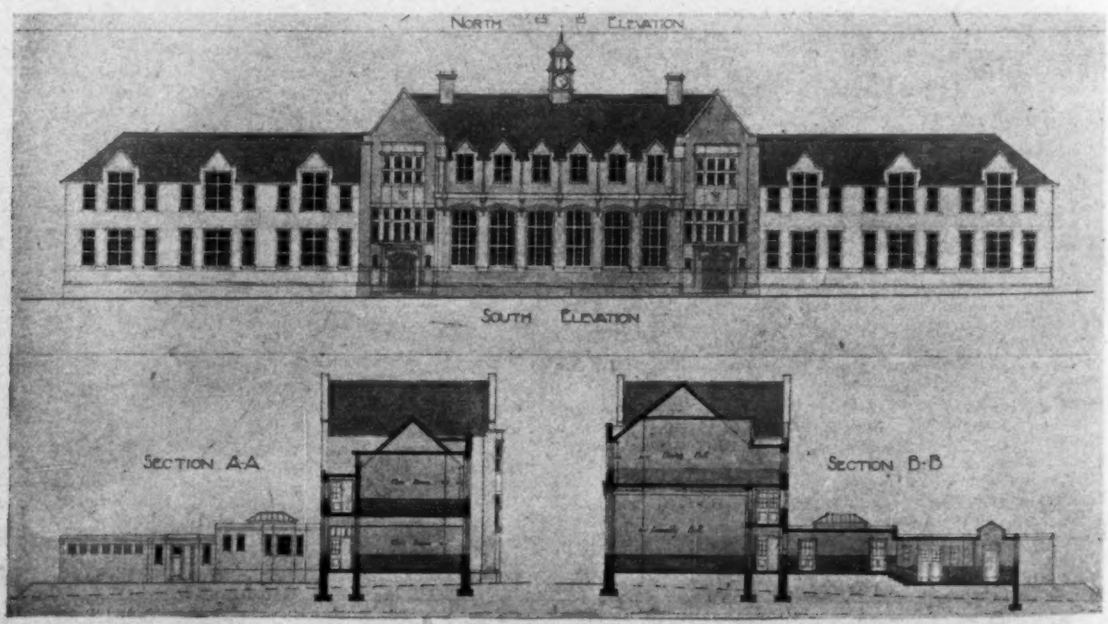
Sheffield.—The memorial will take the form of a public hall, on a site near the Town Hall, at a cost of £200,000. Competitive designs are to be invited.

Leicester.—The memorial at Leicester will be associated with the University, and two new grammar schools are to be erected. The total cost is put at £250,000, of which £120,000 has been subscribed to dedicate a grand sculptural entrance.

Nottingham.—The erection of a group of statuary, at a cost of £20,000, is suggested.

Rent Restriction Acts Committee.

The Government has appointed a Committee "to consider the operation of the Rent Restriction Acts, and to advise what steps should be taken to extend, continue, or amend these Acts." The Committee consists of :—The Marquess of Salisbury, K.G. (Chairman) ; His Hon. Judge Sir Edward Bray ; Mr. E. Hallas, M.P. ; Sir Aubrey Symonds, K.C.B. (Ministry of Health) ; and Mr. P. B. Moodie (Scottish Office). Mr. H. C. Talbot, of the Ministry of Health, has been appointed Secretary to the Committee. Communications on matters concerning the Committee should be addressed to the Secretary, Rent Restriction Acts Committee, Ministry of Health, London, S.W.1.



Truro Secondary School Competition. First Premiated Design, by MESSRS COWELL & DREWITT. (See page 275.)

Leading Contents.

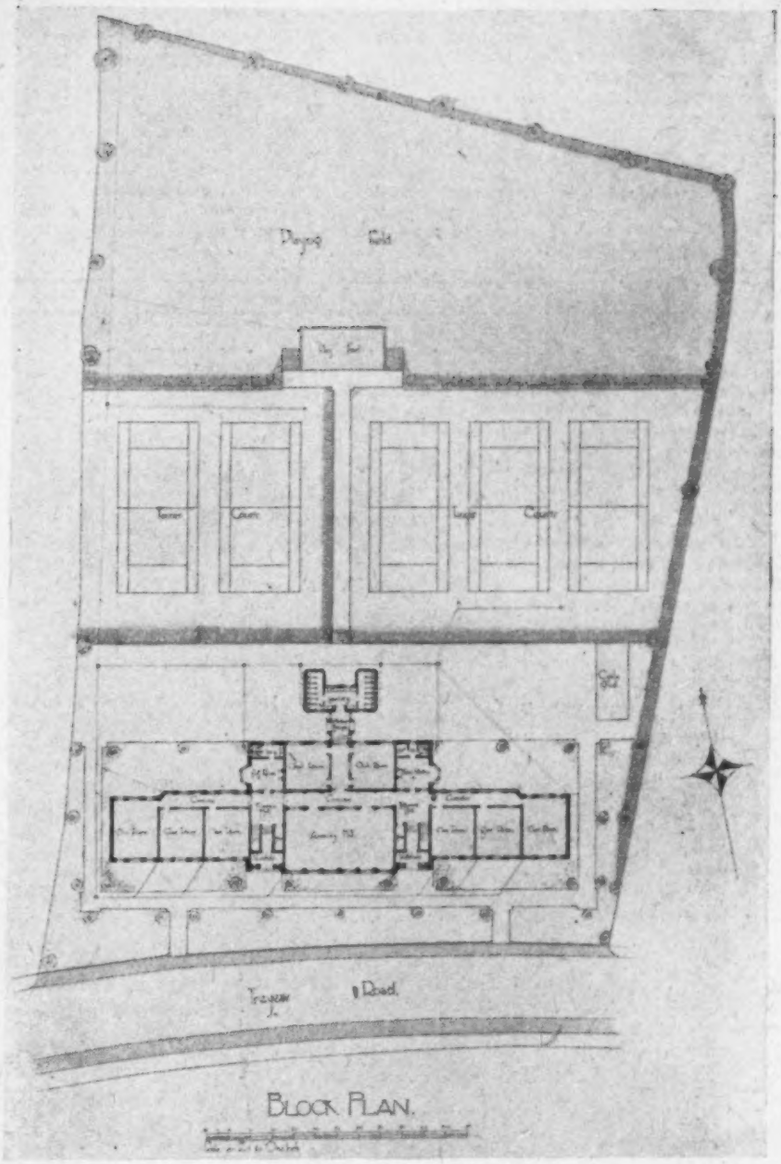
	PAGE
CHARING CROSS	267
NOTES	268
GENERAL NEWS	270
CORRESPONDENCE	271
DRAWINGS AND ARCHITECTURAL EDUCATION	272
THE ARCHITECTURAL CRAFTS	273
R.I.B.A.	274
WAR MEMORIALS	274
GREEK AFTERNOONS AT THE BRITISH MUSEUM	277
EXHIBITIONS OF THE WEEK	280
THE TREND OF ARCHITECTURAL THOUGHT IN ENGLAND OF TO-DAY	280
ARCHITECTURAL SOCIETIES	281
HOUSING AND TOWN PLANNING NOTES	282
THE LATE MR. PHILIP COLDWELL THICKNESSE	283
THE BUILDING TRADE	284

ILLUSTRATIONS.

Secondary School, Truro.

THIS design was placed first by the assessor (Mr. H. P. Burke Downing, F.R.I.B.A.) in a competition held by the Education Committee of the Cornwall County Council for designs for a new secondary school for girls at Truro. In his report, the assessor states: "The drawings represent an extremely well thought-out scheme. The main building is well placed, and the plan solves the problem of arrangement of the class-rooms and hall in a very workable manner, and one most helpful to good school administration. The scheme is an economical one—corridors are short, and there is no wasted space; the buildings are well lighted and ventilated, the drainage is efficient, and the arrangement on the site secures to the full all advantages of aspect. The design is simple and expressive, and very suitable for the character and purpose of the building. I have checked the cubing of the building as given by the author of this design, and it is reliable. The design is most economical in plan and treatment, and the author estimates the cost at £25,003 6s. The estimate is fairly made, but must, I think, be regarded as sanguine. I am of opinion, in view of the general increase of wages within the last week or so, that the whole of the work will not be carried out with such satisfactory finishings, although of the simplest kind, as are properly required for buildings of this character for a less sum than £30,000. I place second the design numbered 5. The elevation is good, but the plan is considerably less economical in cube than No. 6. The author estimates the cost at £26,720 8s."

The authors of the designs placed first and second are Messrs. Cowell & Drewitt, of Leonard Chambers, Penzance.



Truro Secondary School Competition.
First Premiated Design, by Messrs. COWELL & DREWITT.

Proposed Improvements in Central London.

I submit that there exists now a pressing necessity for some comprehensive street improvements in Central London, based on possible and practical lines, in order to provide for the increasing traffic and for the requisite development of trade, which will be essential to fight the future economic battle. In view also of a national war memorial, of the possibility of a new Charing Cross Bridge being built, and of the approaching expansion of trade, I venture to suggest in the public interest and for consideration by the authorities, a scheme for street improvements including a new road to extend from the Victoria Embankment to Leicester-square. This would provide a direct and suitable approach from Piccadilly and Regent-street to the Strand, to a new Charing Cross Bridge and a war museum, which together would form a worthy war memorial in London. Such a development would adequately open up this too cramped and congested central area of London, meet the difficulty of the ground levels, relieve of further congestion the existing streets in the neighbourhood, and provide additional and spacious communication suitable for the increasing traffic between the Strand and the Victoria Embankment, a new Charing Cross Bridge, Covent Garden Market, Piccadilly, Regent-street, and also the various other adjacent streets leading north, south, east and west.

The accompanying plan and perspective view show, in my opinion, how such a scheme could produce a remodelling of this district which would be practical and monumental, and would greatly improve the trade facilities and amenities of the whole of this important centre of London.

The Adelphi buildings, some of which contain interesting 18th-century decorations and fittings designed by the brothers Adam, are now falling somewhat into decay and are mostly built on brick arches which have a limited life. These buildings some day will have perforce to pay tribute to the State and bow to the nation's expanding commercial needs. Ere long there must be decided the question of the preservation of this property, which was designed for the needs of a past century, having regard to the present pressing demand for the trade expansion of the nation, and whether the demolition of the property should not for such a cause be regarded as permissible vandalism. The properties which could be acquired adjacent to the suggested improvements would provide good building sites for new monumental buildings suitable for the Empire's trade, Government and Colonial offices, an overseas war memorial, an Imperial trade exchange, banks, hotels, a new opera house, a larger "Home of Architecture," a larger Society of Arts, a British Institute of Industrial Art, a Temple of Hygiene, and also buildings for re-housing numerous displaced tenants, etc.

I submit that no design yet proposed for a new Charing Cross Bridge has adequately solved the essential road traffic problem, which is the main factor in connection with it, is inseparable from it, and should be the first essential in relation to any new bridge scheme. Before the war the vehicular and pedestrian traffic on all roads in the vicinity of the Strand was greatly congested, and after the war no additional traffic from any new artery, such as a new bridge, should be launched in this central area upon existing streets only, but sufficient provision should be made to carry all additional traffic by a new road some con-

siderable distance from the centre of concentration at the Strand whereby it would gradually be dispersed into the various existing branch streets, and without having to cross a very busy tram route like the Victoria Embankment. The improvements I suggest would accomplish this, and also provide a large open "Place" at the Strand, suitable for the adequate circulation there of the extensive traffic, in which the existing Charing Cross monument could remain undisturbed, and a Monument of Victory could also be erected. Comprehensive street improvements on the other side of the River Thames could also be planned on economical lines, and good sites could be provided there for a large war museum, a new South-Eastern Railway Station and palatial hotel, whilst a dignified high-level bridge could be designed to fit naturally as the essential connecting link across the river.

It appears to me that a falling gradient from the Strand, such as that of Villiers-street, down to any new low-level or semi-low-level bridge would be a doubtful experiment. I question its suitability for the use of vehicular traffic which would, in either case, have to ascend and descend considerable and rather awkward gradients, and cross the extremely busy Embankment roadway, whilst the æsthetic appearance of any such low-level structures would be questionable. A vast amount of traffic to and from the South-Eastern and South-Western Railways on the south side of the river would, by the scheme I suggest, circulate practically upon the same spot as the present traffic of the Charing Cross South-Eastern Railway Station, and this would be a vital matter for the traders in this important neighbourhood. The amount of business, therefore, that could still be done here if the bridge were built, and the values of the neighbouring properties, would inevitably be increased.

Such a great street development in conjunction with the proposed new bridge, and the widened Strand from the Hotel Cecil to Trafalgar-square, which has already been decided upon and partly carried out by the London County Council, should transform this spot into practically the "Hub of the World," which it should be, and I think that it behoves us all in the national interest to see that such a desirable objective should not be missed. . .

JOHN MURRAY, F.R.I.B.A., F.S.I.

MEETINGS.

FRIDAY, *March* 5.

Glasgow Architectural Craftsmen's Society.—Mr. Wm. Burnside on "Pneumatic Foundations." At Royal Technical College. 7.45 p.m.

Town-planning Institute.—Mr. W. H. Gaunt, O.B.E., on "Town Planning with Reference to Factory Development and the Distribution of Goods." At 92, Victoria-street, S.W. 1. 6 p.m.

MONDAY, *March* 8.

Liverpool Architectural Society.—Mr. H. L. North, F.R.I.B.A., on "The Flower Garden." At 13, Harrington-street. 6 p.m.

TUESDAY, *March* 9.

Institute of British Decorators.—Mr. W. J. Pearce on "The Selection and Purposes of Colour in Decorative Work." At Painters' Hall, E.C. 4. 7.30 p.m.

WEDNESDAY, *March* 10.

Northern Architectural Association.—Mr. N. Lloyd, O.B.E., on "Some Right Ways, Some Wrong Ways, and Some Suggestions." At 6, Higham-place, Newcastle-upon-Tyne. 7.30 p.m.

Royal Society of Arts.—Mr. H. M. Thornton on "Gas in Relation to Industry and Housing." At John-street, Adelphi, W.C. 2. 4.30 p.m.

St. Paul's Ecclesiological Society.—Mr. F. E. Howard on "Some Mid-Suffolk Churches and their Woodwork." At Chapter House, St. Paul's, E.C. 8 p.m.

Institute of Builders.—Annual General Meeting. At 48, Bedford-square, W.C. 4 p.m.

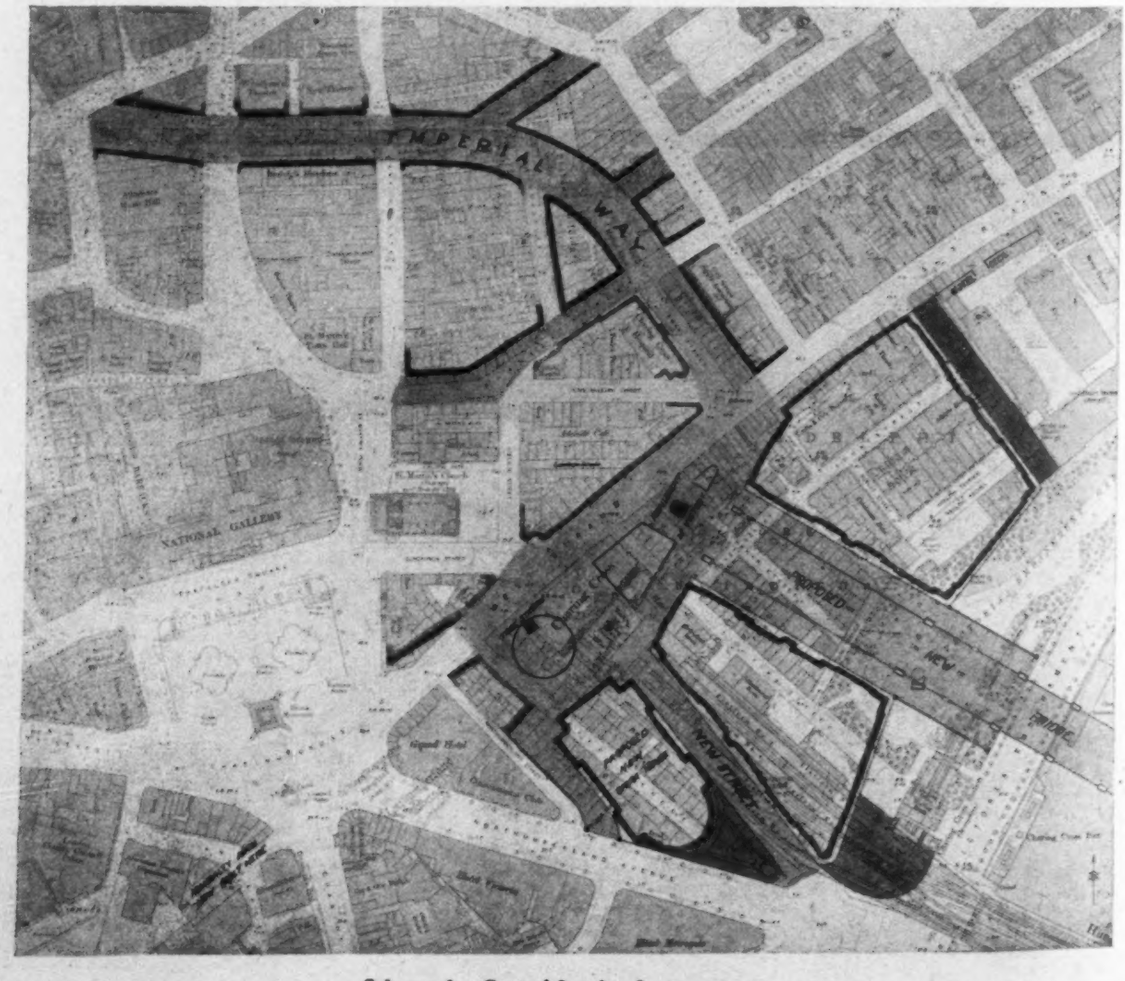
THURSDAY, *March* 11.

Society of Architects.—Sir Ambrose Poynter, F.R.I.B.A., on "Thoughts on Economies in Relation to the Present Crisis." At 28, Bedford-square, W.C. 1. 8 p.m.

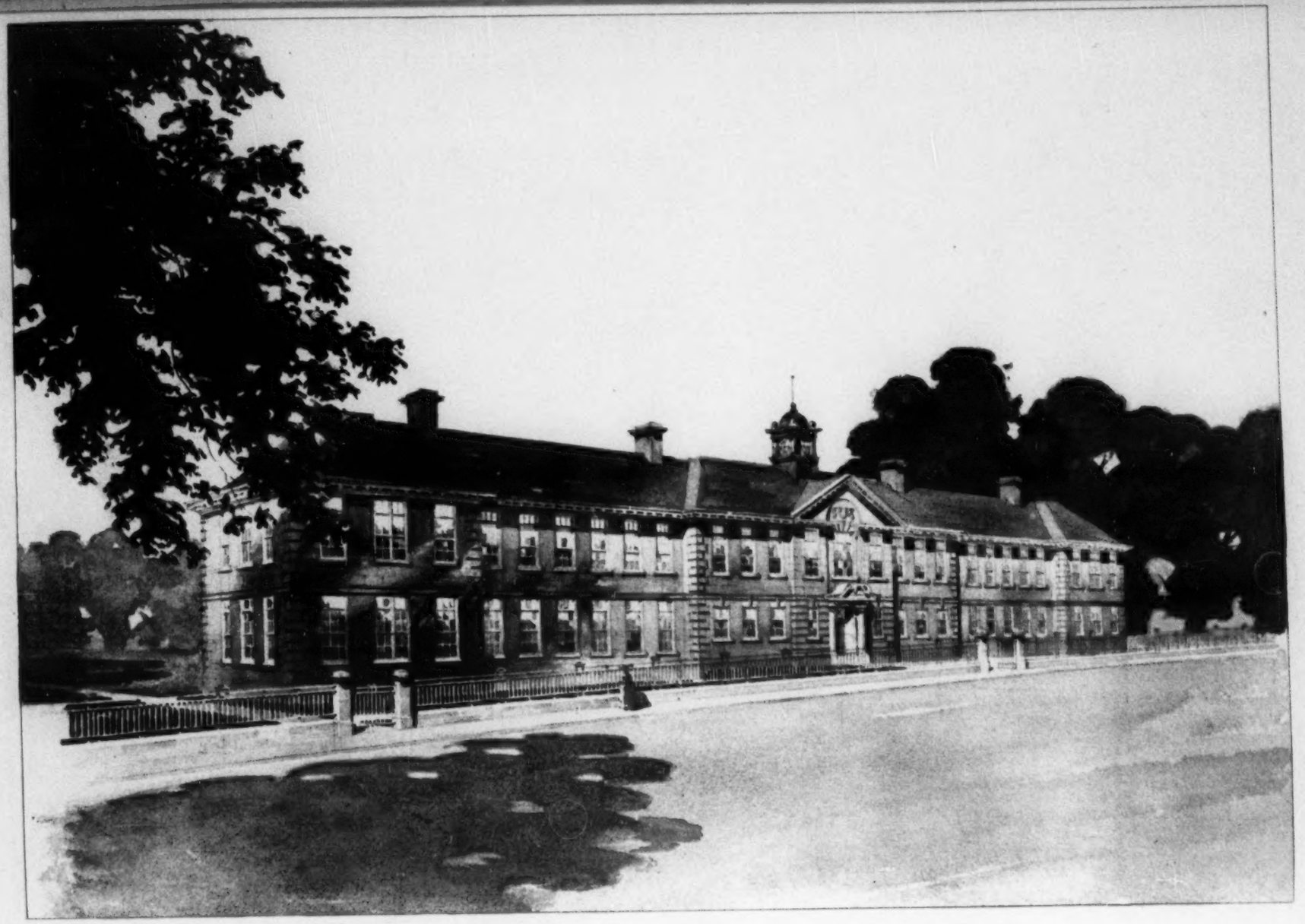
L.C.C. Central School of Arts and Crafts.—Sir Banister Fletcher, F.R.I.B.A., on "Georgian Domestic Architecture." At Southampton-row, W.C. 1. 6 p.m.

The Housing Subsidy.

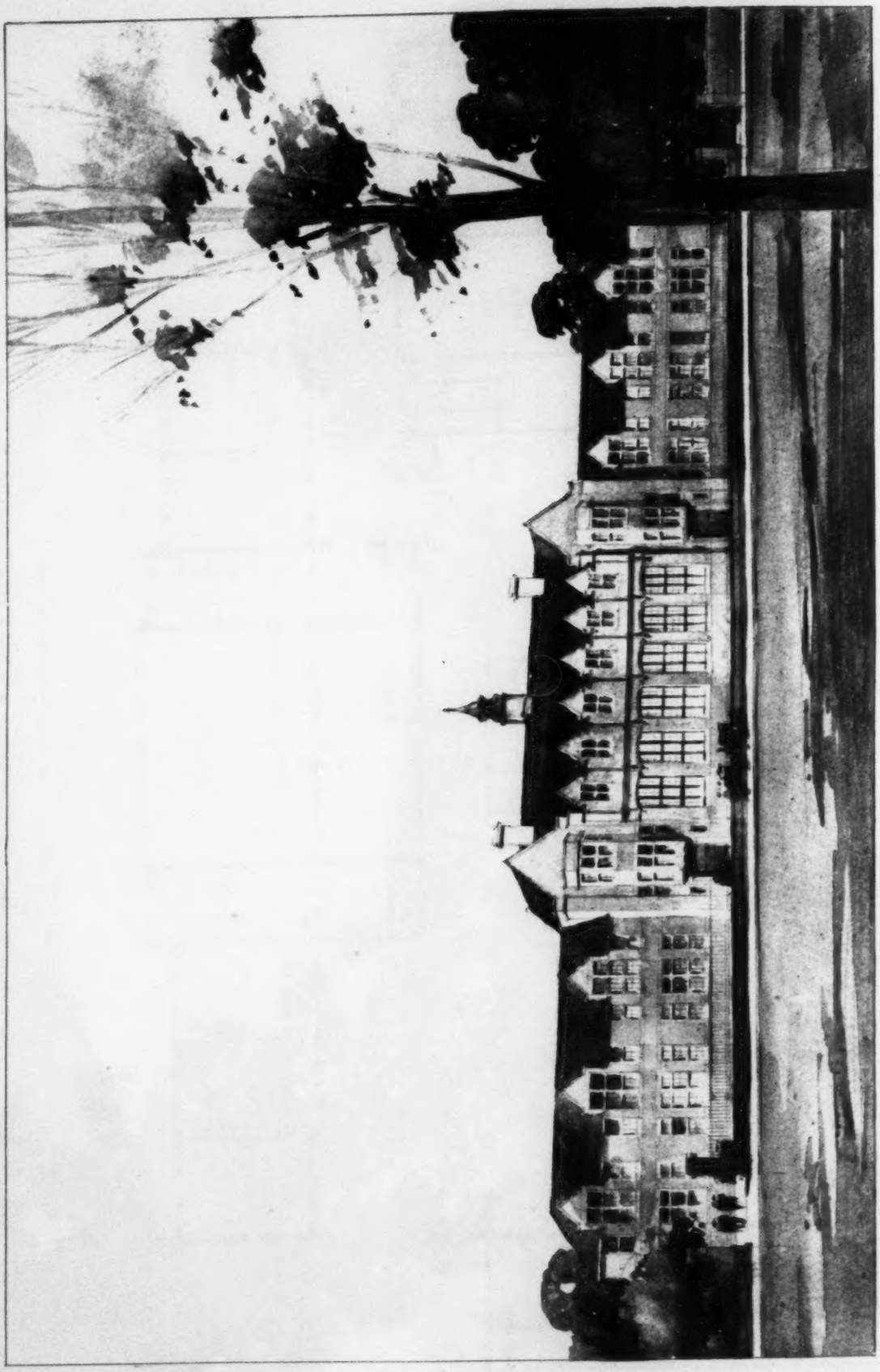
The Right Hon. Sir Tudor Walters, M.P., F.S.I., will attend at the Surveyors' Institution, Westminster, at 3 p.m., on March 10, to explain on behalf of the Ministry of Health the regulations under the Housing (Additional Powers) Act, 1919, which govern the granting of the subsidy to private builders. Members and others interested are invited to attend.



Scheme for Central London Improvement.
Suggested by MR. JOHN MURRAY, F.R.I.B.A. See page 275.



COMPETITION FOR NEW SECONDARY SCHOOL FOR GIRLS, TRURO.—DESIGN PLACED SECOND,
BY MESSRS. COWELL & DREWITT.



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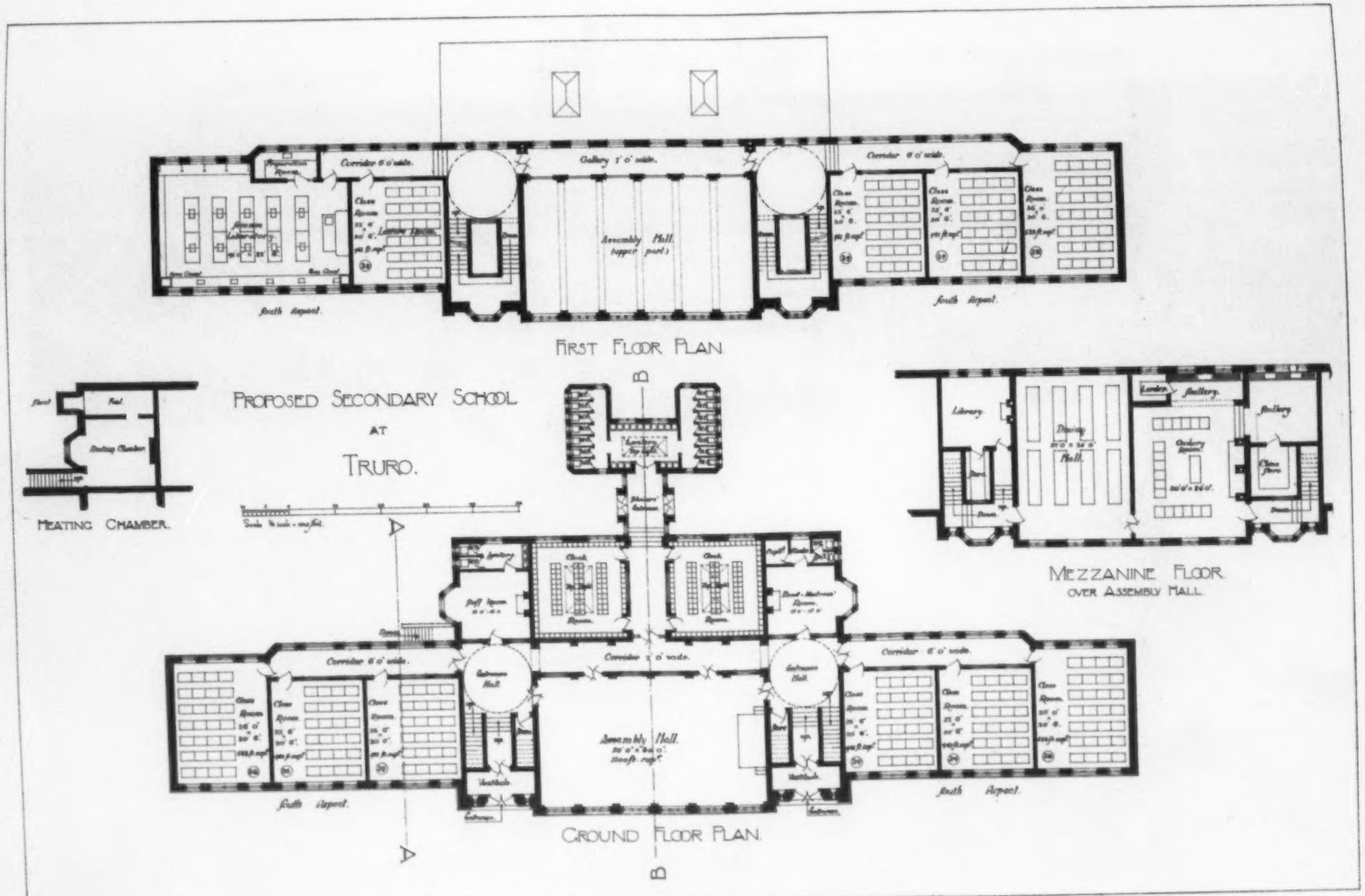
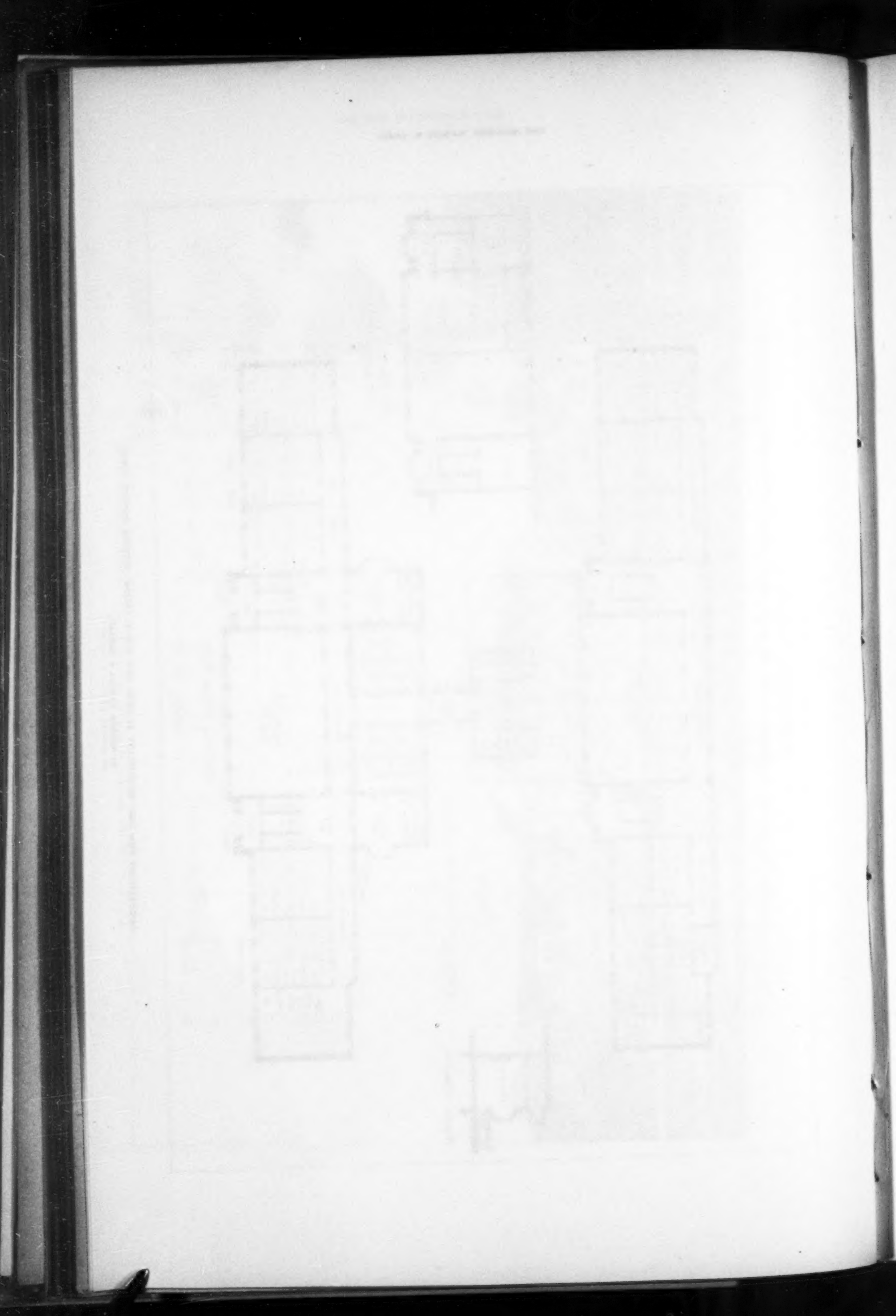
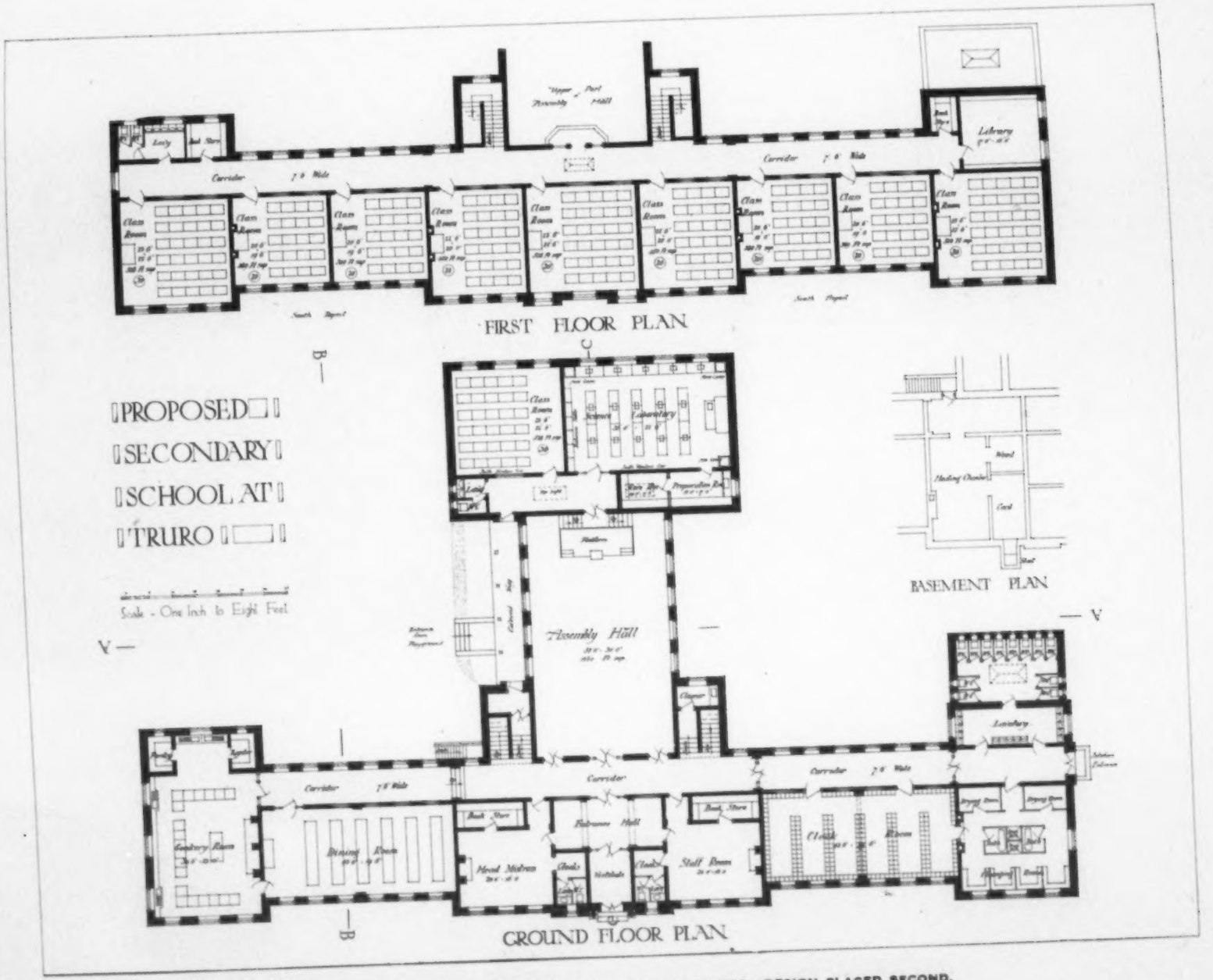


COMPETITION FOR NEW SECONDARY SCHOOL FOR GIRLS, TRURO.—DESIGN PLACED FIRST,
BY MESSRS. COWELL & DREWITT.





COMPETITION FOR NEW SECONDARY SCHOOL FOR GIRLS, TRURO.—DESIGN PLACED SECOND, BY MESSRS. COWELL & DREWITT.

R.A. EXHIBITION, 1919.

DESIGN FOR IMPROVEMENT IN CENTRAL LONDON:

SUGGESTED BY MR.

L LONDON: VIEW FROM THE STRAND LOOKING OVER THE THAMES.

STED BY MR. JOHN MURRAY, F.R.I.B.A.

GREEK AFTERNOONS AT THE BRITISH MUSEUM.

BY W. R. LETHABY.

DORIC ORIGINS AND DEVELOPMENT.

FROM one point of view this is a narrow and remote question of archæology; from another, however, it may be made a study of the forces which form all architecture, modern and ancient. No school of building or even of ornament was ever developed as a matter of "taste" and "design." There is always an antecedent for every custom. Of course an appreciation of "looking all right" must always have been present as it is now, even in regard to such practical things as ploughs and puddings; but directly the idea of designing for the look of the thing arose disease set in. At first in all schools the results are very attractive up to a point where redundance has gone on some little way, but it is a way that leads to decay. To function properly is the first law of health in architecture. The study of what is ancient may thus be undertaken to discover what is universal and in the interests of the modern.

The objects which I make my text are the archaic metopes from Selinus, discovered by Angell and Harris, who gave casts to the Museum, and the large number of terra-cotta tiles and casings.

Pre-Hellenic Ægean art we may suppose to have flourished for a millennium from 2000 to 1000 B.C. During the latter part of this time there were invasions of a shepherd folk from the north. These were the Dorian Greeks. About 1000 B.C. Greek art proper emerged and entered on another millennium of progress and decline. Mycenean art reached its zenith about 1500 B.C., and classical art culminated soon after 500 B.C. It will simplify our ideas to get these two cycles firmly fixed in our minds.

Origins.—It has been made clear by research, what might have been seen on general principles, that Dorian civilisation and "Doric" art were formed of three elements: (1) The continuance of Mycenean traditions; (2) some infusion of northern ideas; (3) borrowings from the old art on the ground and from foreign lands. Even the *Iliad* is largely a traditional survival from what was remembered as a heroic age.

It has been clearly shown that the Greek temple had its origin in the palaces of the old Ægean rulers. In those we find halls fronting courts entered by propylæa. These halls had internal pillars and wide porches. In one case, at Tiryns, an early temple has been found on the site of a palace hall and partly formed out of it; in another, at Troy, a building has been excavated which might either be a palace hall or a temple. It is practically certain there must have been a continuous development from hall to temple. Again, Dorpfeld has shown that the traditions of building followed Ægean structural methods. Walls were of sun-dried brick above masonry plinths, which became the orthostates of later temples. At the ends of the projecting walls of the porches were flat casing posts to protect the crude brick, these became *antæ*; between them were pairs of posts which became the columns in *antis*. Even the old porch seats were in some cases continued, and I believe the assembly of the gods on the Parthenon frieze were imagined as seated in the portico, and there is some evidence that chairs for them were actually set out. The Greek temple was never "designed," it was developed unconsciously. The old temple of Hera at Olympia illustrates the transition stage. Here I condense from Michaelis, 1908: "It illustrated most vividly the relation of the original wooden construction to the later of stone. The old construction of sun-dried bricks used in connection with wood when elucidated by surviving modern usage was made clear to be incorporated in the history of architecture. Peculiarities of stone construction such as the double height of the lowest courses of stones and the slightly projecting form of the antæ proved to be the remains of the old construction of wood and clay. The orthostates were intended to preserve the sun-dried bricks from the damp, and traces have been discovered of the antæ or upright wooden casings. No trace has been found of the entablature, which proves that it must have been of wood. Roof tiles and a huge acroterion of painted terra cotta have been found. Whether from the original building or from a reconstruction when a sloping roof replaced a horizontal roof of beams and clay depends on the date. The narrowing of the wooden column towards the base, as in a modern table, gave place in stone to a narrowing towards the top. A connection could, however, still be traced in the capital; the torus of the Ægean capital developed into the echinus of the Doric, below which in the two older temples at Paestum there was still preserved a gorge with leaf decoration [as at Mycenæ]. The connection was made clear when Puchstein pointed out that Paestum had been founded by Achæans, and the only capital of this form found in Greece is in the Achæan citadel of Tiryns [see figure in Perrot, Vol. VII]. We are obviously dealing with a tradition derived from the heroic age."

Other Ægean survivals are to be found in the sculptures, the entablature, and the method of casing masonry by slabs. The branching ornamental acroterion on the apex of the pediment is, I believe, a survival of Horns of Consecration. The projecting band on the top edge of the epistyle is in the archaic temple (c) at Selinas, channelled into a continuous shallow moulding which is clearly derived from such moulded bands as those at the Treasury of Atreus (Fig. 1). There is a fragment in the Ashmolean Museum, which shows in part what looks like a block under a fascia moulding like those under the triglyphs of the Doric frieze. Panel and block construction like that of the frieze was well known for Ægean dadoes. Even at the Parthenon the fields of the pediments are cased up with great slabs in front of the coursed masonry. Thus Doric building, as it developed, continued Ægean customs to an extent which has not yet got into any of the text-books.

Influence of Tiling.—It appears from some minor objects that the pitched roof was already known to the Ægean peoples. On one of these, a terra-cotta coffin or chest, there is an acroterion-like appendage on the peak of its roof. Sir A. Evans has pointed out that representations of gabled structures appear on gems. The earliest pitched roofs would have been covered with thatch and shingles, but at a later time tiles were devised for this purpose. This was one of the greatest adaptations in the whole course of architectural development, and its importance has not, so far as I know, been sufficiently brought out. Burnt pottery had been known from high antiquity, and the Ægean peoples made great storage vessels, drain-pipes, and other useful things of this material, and it is just possible that they may have thought of roof tiling. In any case, it was in use about 800 B.C. It is clear from existing remnants that the tiling was provided by the potters; of this there is most interesting evidence in the ornamental features which are in the vase-painting tradition. Imagine the bringing in of tiled roofs to protect structures of unburnt brick. These tidy, ingeniously fitting water-proof casings must have made all the difference. The eaves were well projected to shelter the plastered and white-washed walls, and suitable gutters, verges and ridges were soon developed. "This is something like," the builders said, as they stepped back to admire the work of their hands, their faces glowing with workmen's joy! For generations and centuries the cry was for more and more of this wonderful material. Terra-cotta casings with pierced fringes were run along the eaves and up the verges, ante-fixes were put to the tile rolls, and great acroteria on the pediments. All these were modelled and painted. It must be remembered that the potter was the leading artist in the archaic ages, and his part in the development of building at this time was so dominating that it became Potter's Architecture. This method of building had an especially great influence in Italy, spreading into Etruria from the Greek centres, and being handed on to Rome, where terra-cotta slab casings were still in use for crude brick buildings at the beginning of our era.

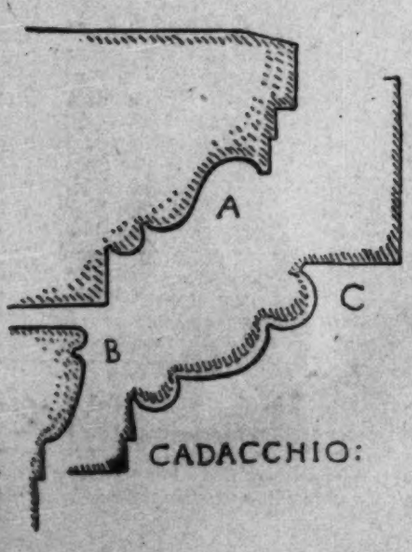
The examples at the Museum are mostly from South Italy. One set of pieces from Civita Lavinia has been associated together, and there is a very similar group in Rome from Civita Castellana. A few important fragments in the Museum are from Cyprus; amongst them are parts of a colossal statue, probably from a pediment.

On the site of an archaic Greek temple at Syracuse, the discovery has just been reported (*Times Lit. Sup.*, Jan. 22, 1920) of "a remarkable series of fragments of architectural decorations in painted terra-cotta, belonging to several edifices. They date from the seventh and sixth centuries, B.C., and are of the highest importance and greatest beauty. Even if this method of decoration was Corinthian in origin, it was in Sicily that it came to its highest development. The most important of these terra-cottas—a figure of a Gorgon—Orsi considers to have formed part of a votive group. (Fragments of the marble tiles of the new temple also came to light, and the drain which carried off the water which fell into the cella through the opening in the centre of the roof.)"

In Greece the vogue of the tile subsided in favour of marble, but in the Greek colonies of Italy the stone was very coarse and porous, and tile casings entered into many ingenious combinations. Greek

architecture must have passed through these phases:—1. Crude-brick, rough-stone, wood and thatch. 2. The development of roof tiling and pottery casings. 3. Stone and marble with some pottery. 4. All marble building.

In the last stage even the roof tiles, ante-fixes, gutters, verges and ridges were copied into marble, but the full effect of this is hardly understood. The overhanging verges of the gables become the slanting mouldings of the pediment, the top cymation of which was not a solid member, but thin as a tile. This member, even at the Parthenon, has rebated joints, as have the earlier tile verges. The tile technique may also have been an influence in the development of the metope and triglyph frieze, the origin of which was already a matter of curiosity to Vitruvius. An elaborate review of the theories may be found in a recent number of the *American Journal of Archæology*. In an early temple at Thermon, excavated in 1897-9, the metopes were painted on thin slabs in "a very archaic style." The tradition of painted frieze panels lasted into late Greek art, as is shown by those discovered in Cyrene by Captain Beeching. Again, building custom decreed, even when all had become marble, that the metope was regarded as a thin panel slipped into grooves or rebates in the sides of the more solid triglyphs. In several cases recorded by Wiegand (*Poros Architecture*), the triglyph has a vertical narrow groove on each side. The triglyphs were short upright covering pieces between the metope panels. The earliest painted and modelled metopes were doubtless of pottery. It should be remembered that the great majority of buildings were of humble scale and slightly built, and the fixing of custom would be by those rather than by the very few monumental temples. Why, it may be asked, did the Doric mode require a frieze, when the Ionic was without? An answer may be found in the fact that as the Doric eaves sloped down as it projected, and in early days it probably projected far, some height above the beam was thus desirable. In the Ionic mode, which was probably developed from flat-roofed types, there were no sloping eaves. The ends of cross timbers appearing over the epistyle doubtless brought the block and panel scheme into consciousness and custom; but I suggest that the overhanging eaves caused it to persist (Fig. 1A). The vertical channels or flutes of the triglyphs show that they came to be regarded as upright posts. It seems to be normal that the decorated field of the metope should be square, even when the panel itself is taller than wide, as at the archaic Selinus Temple. This again, I suggest, shows the influence of tile panels.



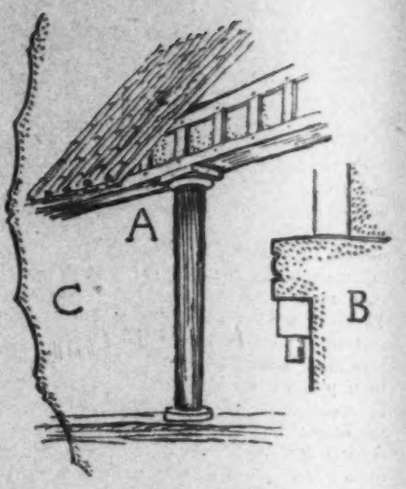
CADACCHIO:

The soffits of the overhanging Doric eaves suggests a casing of wood; compare the panelled soffits of one of the Paestum temples. These minor points may be elaborated to weariness, but I want to bring out the fact that nothing was ever designed "out of whole cloth," as the Americans say.

Sculpture and Magic.—It is quite clear and certain that the sculptural features of Doric temples were largely developed from modelled and painted prototypes. Perrot says: "The early stage had not known carved mouldings; it is in terra-cotta that such ornaments as 'eggs and tongues' were first executed in relief." The same is true, to a large extent, of even the great pedimental sculptures. Before the free standing figures of the Parthenon were imagined there had been more primitive pediment sculptures in low relief, and still further back we reach terra-cotta casings. Dr. Ashby recently wrote (*Times*, as above): "Our knowledge of archaic Greek terra-cotta decoration has been further increased by Gabrici's discovery that the largest and most ancient (about 580 B.C.) of the temples on the Acropolis at Selinus (that known as c) had a huge painted Gorgon's mask, over eight feet in height, in the centre of one of its pediments." It was at this same temple that Angell and Harris, the English excavators, found the archaic metopes, of which casts are in the British Museum, and one of these also has a Gorgon.

From the control of natural conditions I pass into the freer realm of ideas—but to say freer is only an assumption, for the meaning and intention of the Gorgons just mentioned show how sculpture was dominated by magic and ritual, even in the sphere of so-called "decoration." The Gorgon is the most prominent of a group of forms which were supposed to have the virtue of turning away harm and the evil eye. In such "apotropaic" functions we find, to an extent hardly as yet accepted, the origin of early sculptures. These were not set up for a critic to come and say they were not quite right, nor as architectural "dressings." To understand old art we have to get rid of our thin little notions of style and design, likes and dislikes. Old sculptures had depths and even abysses behind them. Ancient architecture was an embodiment of the folk mind, not of private caprice and academic facility; temples were not built to "taste," but for magic. The psychological basis of ancient architecture and sculpture opens out as a fascinating subject. It was the spirit which formed forms; old art was heart.

The earliest Greek pedimental sculptures known were discovered at Corfu in 1910. They belonged to a very archaic temple, of which some architectural fragments have likewise been discovered. The centre of the pediment was occupied by a powerful group of the Gorgon and her offspring. They were represented, in full frontal view, as protectors of the temple and averters of evil. This apotropaic function



is heightened by the flanking lions, whose heads are likewise turned vigorously to the front. There could be no more direct illustration of the magical function of early sculpture. The figures are in low relief on slabs which cased the tympanum (see Mrs. A. Strong's *Apotheosis*). The Gorgon is very similar to that on our east of the Selinus metope, and may be dated about 600 B.C.

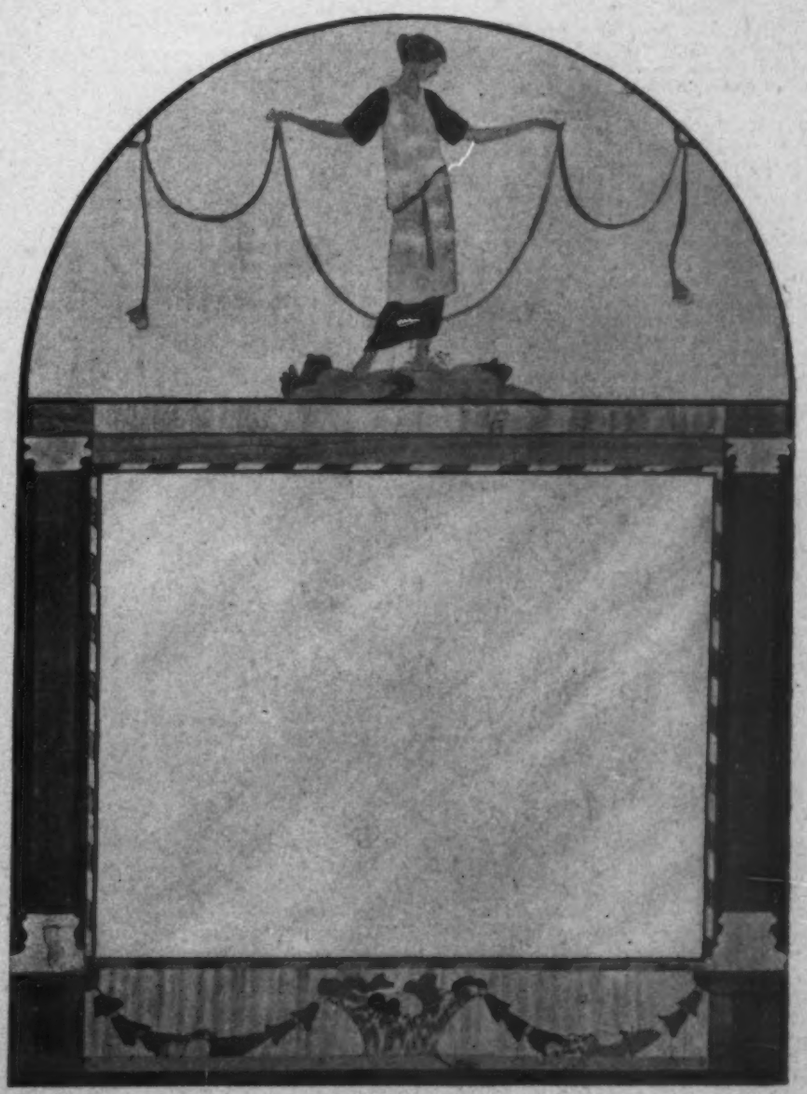
Sir Arthur Evans, writing on the question of Ægean survival, in 1912, says: "The Mycenean element in Doric architecture is generally recognised. Even the primitive arrangement of pediment sculptures goes back to a pre-historic model. In examining the sculptures from Corfu the observation was forced upon me that the essential features of the scheme were those of the Mycenean tympanum. The fragment of a sculptured lion found in front of the early sixth century temple at Sparta was clearly part of a pedimental scheme of the same class" (*Jour. Hellenic Studies*). I believe that I have seen that fragments of a Gorgon acroterion have been found, which surmounted the archaic temple on the Athenian acropolis. A golden shield with a relief of the Gorgon was set up on the front of the temple of Olympia after 457. An examination of the early architectural terra-cottas from Italy in the British Museum will show how frequently the grinning head of the Gorgon was represented. In a recent article (in A.J.A.) Professor Frothingham has studied its persistence in Etruscan and Roman pediments. Professor Cook also has some remarks on the same subject in his "Zeus." The pediment of the little Romano-British temple found at Bath is a most interesting example of survival. Doubtless here, at a health resort, the great head was intended to scare off disease. The Gorgon was only the most prominent of a group of creatures which warded off harm, such as sphinxes, griffons and lions. Warder sphinxes are found on the front of the early Doric temple at Assos, and on the Lycian tombs in the British Museum. These and griffons were frequently placed on the lower angles of pediments, as, for instance, at Ægina, watching in the four directions. Guardian lions were very frequent in Ionia; the archaic lions from Miletus and those more famous ones from the Mausoleum in the British Museum, were all apotropaic. The lions' heads along the gutters were not merely ornamental—they had the same magic function; this is proved in a very

interesting way at the Parthenon, where there is a lion's head at each corner, where the cymatium of the pediment returns on the flanks. Here the heads have no structural function whatever, and they have been supposed to be what we call "ornaments," but they turn their gaze a little towards the four angles, and are evidently watching. Such evidences, taken together with the warden creatures of Egyptian and Mesopotamian sculpture, and the ramping lions by the Gate at Mycenæ, suggest that the origin of external temple sculptures is to be found in the magic service they performed. The serpent-monsters of the Hekatompedon at Athens must have had a protective influence, as also the battle of gods and giants which took their place, and the struggles of Hercules with evil powers.

Variation.—Doric architecture became standardised with the Parthenon; at this point growth and variation practically ceased. The earlier experiments in development which have been brought to light by recent explorations have hardly yet been gathered into the text-books. Experiment and change were almost as unceasing as in early Gothic work. Plans vary, like those of the cathedrals, and the "proportions" of the order are modified at every structure. On the other hand, things which seemed abnormal are explained, and fit into their place. Thus the colossal "Temple of the Giants" at Agrigentium, with its attached semi-columns, is seen to be allied to the middle temple at Selinus, which, as Koldeway and Puchstein have shown, had a screen wall about fifteen feet high between the columns all round the peristyle. Again, the curious division of the "Basilica" at Paestum by a central row of columns led to the denial that it could be a temple; but many archaic temples so divided have been found, one of which is at Locri, also in South Italy. Recent excavation, moreover, has quite proved that it was a temple. As to details of the "order," the earlier profiles of the capitals were very various; one large group referred to above had a hollow throat beneath the echinus. The treasuries at Olympia examined by Mr. Dyer (*J.H.S.*, xxvi) showed "interesting archaic variations from full-fledged Doric." One had columns with thirty-two flutes, divided alternately by sharp edges and shallow beadings (Fig. 1). An epistyle had a moulding similar to that from Selinus (Fig. 1b). There are many ways of channelling the triglyphs, the metopes at Epidauros were occupied by fine rosettes. This was of the fourth century, but it comes so near Ægean examples that I have no doubt there were intermediate links; this treatment is also found in Etruscan work. The heading band of the epistyle was moulded at several temples in Magna Græcia. I can furnish a new example of this at the little temple at Cadacchio, Corfu, discovered by an English party in 1822 (Stuart & Revett, Supplement). The draughtsman put the moulding inside the peristyle, and a plain heading band on the exterior; but comparison with other examples shows that this should be reversed. There were no triglyphs (Fig. 2). A very curious moulding can hardly be any other than the cornice, but another stone with carved egg and tongue enrichment was probably part of a door jamb rather than a cornice. The columns were monoliths, and only about two feet in diameter; in the interior a large low basis for the cult statue remained. The plan was set out by the old Greek foot, being 40 feet wide on the platform, 25 feet across the front, and 18 feet in the cella. According to Perrot, all remnants have disappeared, but I find the capital, cornice and jamb (?) in a sketch made by Hayter Lewis at Corfu in 1842 (Print Rm., V. and A. Museum). Perrot made much of this interesting little work, and supposed it to be archaic; I would rather date it about 400 B.C. One reason for this is the form of the cornice—a cyma recta turned well over to form a drip. Another curious cornice at Paestum has a coffered soffite. At the archaic temple at Selinus the mutules of the cornice are alternately wide and narrow. Koldewey has shown that sometimes the pediments rose some feet within the angles of the front, thus leaving horizontal lengths at the bottom. Enough has been said to show that there were no rules of designs or canons of proportion, each building master did the best he could in adapting the current customs of his time. This is the right lesson to learn from Greek art. On the other hand, we might find a more intimate interest in it as history, that it was the capital and parent art of Europe in its millennium. In bronze work and pottery, finally in the coinage and in such customs as using chariots in war, Greek art and customs spread westward to Britain. Our Celtic and Belgic forefathers were not island savages—they shared, although remotely, the culture of Europe.

THE SURVEYORS' INSTITUTION.

The award of the examiners in connection with the recent examination for the Institution Scholarships, which is carried out by the Oxford and Cambridge Schools Examination Board on behalf of the Institution, has now been received. Only three candidates attained the standard required of scholarship holders, and the vacant scholarships, therefore, will be offered to undergraduates already in residence who propose to enter one or other branch of the profession and who are supported by the University authorities as showing exceptional ability. The three successful candidates are:—Mr. E. R. Geo, Bath; Mr. D. C. Buckley, Wimbledon; and Mr. G. J. German, Rugby.



"Mirror."—By Mr. R. Anning Bell, A.R.A.
From an Exhibition at the Mansard Galleries.

EXHIBITIONS OF THE WEEK.

Wood Inlay at the Mansard Galleries.

The public loves craftsmanship, but often, unfortunately, in the directions where its ingenuity and application are wrong. But in the charming exhibition of wood inlays by Mr. Rowley at the Mansard Galleries may be seen delicate and beautiful craftsmanship, almost wholly applied in a right and attractive way. No one can be ignorant of the beauties of wood inlay which have come down through the centuries, but the application of wood grain, and texture to the decorative suggestion of natural objects is, we think, comparatively little known, and has surely never been so instinctively applied and shown as in the 250 exhibits at the Mansard Galleries. Some of us are well acquainted with the able work which has been done by Mr. Frank Brangwyn, R.A., in inlaid woods, and there are some fine examples of his design here; the beautiful inlaid cabinet in the centre of the gallery shows eloquently what a master of colour can do in this way. But look at his "Ghent," "Hollyhocks," "The Factory," and "An Italian Town," and you will see that the field of decorative possibilities widens out almost indefinitely.

But Mr. Brangwyn's powerful individuality by no means renders unimportant many other examples of wood inlay, shown by Messrs. Anning Bell, A. J. Rowley, W. A. Chase, Edward King, H. Butler, E. A. Cox, W. J. Palmer Jones, H. Davies Richter and others.

We all know that the more carefully and painfully we imitate natural effects in pictures, the further do we get away from the broad and summarised effects which really set before our minds the chief significance of natural beauties. So we may well believe that the suggestion of texture and light, of pearly sky, of rugged rocks, of gnarled trunks, of rich foliage, and of juicy fruits which are conveyed in these inlaid wood panels may touch our sympathies and realise our sense of beauty far more completely and truthfully than the most laboured paintings can achieve. As Mr. Brangwyn says, there is no better medium as a wall decoration than these inlaid wood panels; Little decorative paintings, dainty wall mirrors, decorative panels, and a fine inlaid screen by Mr. H. Butler, are evidence of the possibilities of this beautiful medium to the architect and decorator. We have not space to particularise many things, as we could easily do from their special values, but if our readers will look carefully over the exhibition they will find natural woods which convey renderings of light in the sky, of gloom in the woods, of tone in the clouds and hills, of textures in trees and grass and rocks; rightly used the charm of such inlay is quite irresistible, and at the Mansard Galleries it is shown in a setting of frames such as only a skilful artist can apply. "The Lakes" (241) shows how well Mr. Rowley understands the suggestive nature of his materials; it shows delightful tones of colour. "The Carrier's Cart" (19) by Mr. Edward King is another example of the telling use of the right material—the evening glow is finely obtained; and "Riverside" is another notable piece. The "St. Paul's" and "St. Martin's," clever though they are as craft, are only travesties of the subjects; it is a pity to attempt the rendering of architecture unless the drawing be fairly accurate; the dome of St. Paul's nearly always suffers in its portrayal. For one last word we might say that much of the charming work is actually within reach of the purse of the poor and middle classes.

At the British Industries Fair at the Crystal Palace the exhibit of Upchurch pottery is excellent in nearly all its forms, but in subdued tones of colour, which make less appeal when shown in quantity, One of the most successful displays is that of handicraft pottery by Messrs. Carter & Co., whose designs are produced with a simplicity of shape and colouring which is very attractive. Much of the ware is like the Portuguese pottery largely imported a few years ago, with blue stripes on an ivory ground. The shapes of most of Messrs. Carter's pottery are very good, and there is something in its homeliness and good character which should make a wide appeal. The "Ravenscourt" pottery is designed on good lines and is amongst the best obtainable hand-made work. The latest productions in browns and a pleasing combination of black and ivory should be noted. The three before-named are pioneers in the improved development of simple designs which it is to be hoped will receive wide encouragement. There are plenty of purchasers to-day for the more luxurious types such as are to be found on such stands as Wedgwood's, Doulton's, the Royal Worcester, Moorcroft, Carlton, &c. As an example of the sparkling effect of dainty colourings the originally-designed stall of Birks, Rawlins & Co. seems to have called for a better position. In the Burslem room of Messrs. Doulton's exhibit there are to be seen some well-modelled and daintily-coloured figure pieces which should find a ready market. We should like to have seen exhibits of garden ware; the excellent seat-ends in Messrs. Doulton's Lambeth room are almost the only instances. In the Stationery Section a number of very attractive exhibits are to be found, which show the strikingly successful reproduction of original designs.

Inlaid Wood Panelling, by Mr. W. A. Chase.
From an exhibit at the Mansard Galleries.

THE TREND OF ARCHITECTURAL THOUGHT IN ENGLAND TO-DAY.

The following is an abstract of a lecture delivered by Professor F. M. Simpson, F.R.I.B.A., at the Bartlett School of Architecture, University College, on Thursday last week: —

The exceedingly fine and interesting work which was done in the first half of the last century under the direct influence of the finer forms of ancient Classic art, I regard as the most valuable legacy of modern times. In considering present-day architecture, one must step back in order to step forward, and I know of no sounder or more secure platform from which to take off than the buildings of Elmes, Cockerell, and other architects of 80 years ago.

Scotland is particularly rich in examples of the period and style. Edinburgh, for instance, has been called "the modern Athens." At Manchester, the old Town Hall (now destroyed) was a very graceful design, but the three chief centres of the movement were London, Liverpool and Bristol. Apart from its crowning achievement, St. George's Hall, there are at Liverpool—or at least there were 15 years ago—several churches, some fine dignified blocks of offices and a few public buildings, all showing the influence of the Greek movement. Some, like the Athenæum, designed by Thomas Harrison, were by London architects, but the majority were the work of John Foster, Corporation Surveyor of Liverpool for many years; he retired in 1839. Foster travelled with Cockerell in Greece, and although a man of little originality or imagination, he mastered the detail of Greek work. Some of his buildings were merely archæological efforts, and the same may be said of some of the contemporary work in London, as, for instance, Sir William Tite's Royal Exchange, Sir Robert Smirke's British Museum, and Inwood's St. Pancras Church, although the last is archæology on a far higher plane than anything Foster, Tite or Smirke did, and may be carefully studied with advantage.

Wilkins was not an original genius either; the portico of University College is superb, but the sides are badly joined on to it. Sir John Soane was far superior to his contemporaries mentioned. His work was Græco-Roman, and his Bank of England is a really fine achievement, although the credit for some of it belongs to others. Only two other names may be mentioned of those who kept the pure lamp burning, the two who form the culmination of the movement and who designed the most beautiful and original work in it—Harvey Lonsdale Elmes and Charles Robert Cockerell. Elmes won the competition for St. George's Hall against 84 competitors, when he was only 23 years of age. He died less than 10 years after the work was commenced, and the building was finished by Cockerell. For fine scale and stateliness it has no equal in England.

Of Cockerell it is impossible to speak too highly. Anything more exquisite than his little sketches from the nude, and his almost thumb-nail studies of designs for portions of the big hanging candelabra and other fittings in the great central chamber of St. George's Hall, it would be impossible to imagine. In his designs for buildings he did not mind repeating himself to some extent. There is a very strong family likeness between his fine Bank of England, Liverpool, his Bank of England, Bristol, and the Westminster Insurance Office in the Strand, now, unfortunately, no more.

Architectural thought at the present moment, not only in England, but throughout Europe, is concentrated mainly on housing and traffic problems. Town-planning, in addition to its practical side, deals not only with the alignment of streets and open spaces, but also with the types of buildings suitable for such streets and spaces. This important branch of architectural study was woefully neglected during the days of the Gothic revival. With few exceptions, the architects of that movement concentrated their attention on individual buildings and paid little attention to general schemes. The

fine traditions which gave us Bloomsbury in the eighteenth century and Regent-street and Regent's Park 100 years ago were lost. Nash proved in Regent-street that it was possible to design a whole street of buildings in which variety was combined with harmony. Piccadilly-circus, once a graceful "*rond point*," is now a shapeless eyesore, showing neither thought nor taste. The fault of the old buildings in Regent-street is that they are at least one story too low. Regent-street was the last of the fine lay-outs under the old traditions. The two principal streets planned at the end of the last century were Shaftesbury-avenue and Charing Cross-road. These streets were not planned, but "spawned"; they had no beginning and no ending. Not content with laying out streets badly, the authorities 30 or 40 years ago allowed finely-conceived thoroughfares to be ruined. But a new era has commenced in town-planning. Kingsway is a great improvement on Shaftesbury-avenue, but it will not content the rising generation. Better can be done, and notwithstanding the difficulty of driving new streets through a city like London, better will be done.

"Skyscrapers."

To suppose that "skyscrapers" must detract from the beauty of a town, or spoil its amenities, is, in my opinion, absurd. What makes the view of a city from a distance—Oxford, for instance—so fine? Of course, the towers and spires of the churches and public buildings which rise above the other buildings. If one gazed only on to a uniform level of roofs, one might just as well look at a meadow. What makes the exterior of cathedrals and churches so effective, whether seen from near or from a distance? Undoubtedly their towers, which, whether single or in pairs, rise above the mass of the church proper. The dome of St. Paul's is a "skyscraper," and although it is possible that some tradesmen in the neighbourhood would advocate its removal, I doubt if they would obtain much support. If the suggestion is that "skyscrapers" should be packed close together like sardines on either side of a street, they will not do for London. But I do not gather that it is advocated by those who favour their erection. If such a course were followed, the amenities would undoubtedly be destroyed even if streets were made 200 or 300 ft. wide, which would be difficult, if not impossible, here. But, undoubtedly, "skyscrapers" on specially selected sites would enhance and not detract from the beauty of our streets, and from architectural features. A "skyscraper" on the centre of the Aldwych site, surrounded with buildings of normal height, would, in my opinion, form a very fine ending to Kingsway.

"Skyscrapers" should not be permitted indiscriminately, and they should be set back from the frontage line. At London's present stage of development, a scheme on big, comprehensive lines is impossible; but a scheme could be formulated suggesting where tall buildings might be allowed. One "skyscraper" might be allowed to so many hundred feet of frontage; Regent-street, for instance, might have half-a-dozen. Objection might be raised by property-owners if permission to erect buildings above 80 ft. were granted to one and not to another, but I suggest that licence to erect a building above the present authorised height should only be granted on annual payments to the authority for each story above that height.

Housing Schemes.

I view with some misgiving the plastering of the countryside with cottages either single, in pairs, or in fours. I should much prefer to see long buildings, each three stories high, containing two dwellings on each floor. Two such buildings on each acre, or three-quarters of an acre, would house 12 families. The open space would be greater, and not frittered away as in the more usual plan. Dignity and better architectural effect would also result. Failing the big group idea, I have an affection for the almshouse plan. A dozen houses in three blocks of four each, grouped around a rectangle of grass open at the road end, and that end whenever possible facing south, are far superior in effect to three blocks in a straight line or a curve.

ARCHITECTURAL SOCIETIES.

BIRMINGHAM ARCHITECTURAL ASSOCIATION.

Architects and the Public.

THE ninth general meeting of the session was held at the Medical Institute, Birmingham, on February 27. The President, Mr. H. T. Buckland, F.R.I.B.A., occupied the chair, and thirty-two members and friends were present.

MR. HERBERT W. WILLS, F.R.I.B.A., read a paper on "Architects and the Public they Serve," in which he summarised his impressions of the outlook of the general public on matters of building, and the effect of their point of view on their action in daily life. The average man did not show more than a passing interest in architecture. The architect was so frequently tied down by his client on the matter of expenditure that he was unable to do what he was inspired to do. Again, much annoyance was caused, in the sketch plan stage, because the client would not accept the design that was artistic and that the architect was keen on. Many of these obstacles were brought about by the fact that the public was not sufficiently educated in architecture, and the lecturer suggested that they never would be. They liked to see lovely and costly buildings, but they did not like to pay for them; they did not seem to realise that architecture was an art, and that the architect not only carried on his profession to earn his living, but to satisfy himself that he was striving for the advancement of art and artistic feeling. He seemed to lose touch with his fellow-men through prolonged immersion in his profession; he was actuated by a burning enthusiasm, constantly striving to create that which would appeal to the higher and better sense of mankind. The buildings erected by speculative builders were often an eyesore, simply because art was far from the conception of those men. The public seemed disinclined to build for themselves that which was artistic, they rather preferred to buy something that was "ready built," though there might be little or no difference in the matter of cost. The lecturer strongly advocated the partnership of architects and builders. He said he thought infinitely better results would be obtained, and there would be a better understanding of each other's work.

MR. R. SAVAGE, F.R.I.B.A., proposed a vote of thanks to the lecturer.

MR. SALWAY NICOL, F.R.I.B.A., in seconding the vote, said he liked to take the optimistic view, and think that it would be possible to educate the public to appreciate good architecture in the future.

Others who supported the vote were MR. W. DOUBLEDAY, MR. J. A. SWAN, F.R.I.B.A., and MR. A. HARRISON, F.R.I.B.A.

NOTTINGHAM AND DERBY ARCHITECTURAL SOCIETY.

Dinner to Ex-Service Members.

The members of the Nottingham and Derby Architectural Society last week entertained to dinner the ex-Service members of the Society. About 70 members were present, the chair being taken by the President (Mr. H. G. Watkins).

In proposing "The Memory of the Fallen," the PRESIDENT said that five members of the Society had fallen in the war, namely, Captain N. H. Pratt, Lieut. E. H. Brown, Lieut. W. Smith, Lieut. K. V. Weston, and Sec.-Lieut. J. H. Wilson, and also three former members, Messrs. W. L. B. Leach, R. E. Hemingway, and C. Gascoyne. Referring to the position of architects during the war, he said it was not generally known what the architectural profession suffered during that period. First, all the young members joined up; next, building work gradually came to a standstill; and finally the Government practically stopped building work altogether. Then, adding insult to injury, the Government absolutely ignored in all building matters the one profession trained to deal with such matters, and by their action cost the country many millions of money by placing large building schemes in the hands of those who were not qualified to deal with them. Although the membership of the Society only totalled about 110, 45 members and associates had served with the Colours. The honours gained by those members included two D.S.O.s, one Legion d'Honneur, four M.C.s, and one Italian Croix de Guerre—a very fine record. They were now settling down to peaceable pursuits and helping to build a new world.

MAJOR T. C. HOWITT, D.S.O., CAPTAIN G. E. KING, and LIEUT.-COL. A. W. BREWILL, D.S.O., responded.

The toast of "The Visitors" was proposed by MR. A. EATON (Vice-President).

The MAYOR OF NOTTINGHAM, in response, referred to the proposed rebuilding of the Exchange, which, he said, was desirable in the interests of economy. Touching on the housing question, he said that it was now up to the architects to show the city how to build more cheaply. The Corporation was pledged to build 3,300 houses before July, 1922, and about 500 were in hand. It was worthy of earnest consideration to see whether some means could not be devised whereby houses might be erected a little cheaper.

MR. A. W. S. CROSS (Vice-President of the Royal Institute of British Architects) also responded, and emphasised the necessity for unity in the architectural profession.

GLASGOW INSTITUTE OF ARCHITECTS.

The President's Address.

A series of lectures arranged by the Glasgow Institute of Architects was inaugurated last week at a meeting in the Rankine Hall, Elmbank-crescent, by an address from the President, Mr. John Keppie, F.R.I.B.A. Mr. William H. M'Nab, Vice-president, presided. Mr. Keppie gave a short review of the first 25 years' existence of the Institute, and the principal duties which devolved upon the Council. He drew attention to the revival this year of the Greek Thompson Scholarship, which had been in abeyance since the beginning of the war. The subject would be a Pantheon to the memory of the great dead, in the style with which Thomson's name was associated. The four years taken out of the life of so many of the younger architects were to be added to the age of those eligible for the competition, so that students up to the age of 32 might compete on that occasion.

MANCHESTER SOCIETY OF ARCHITECTS.

Address to Students.

MAJOR MAULE, D.S.O., M.C., gave an address to students at the Manchester Society of Architects, on February 25. He classified his preliminary remarks under four heads:—(1) Formation of character; (2) adaptability; (3) technical ability; (4) general culture. The first two had been essential qualities in war, and were no less necessary in the architectural calling. Self-imposed discipline was absolutely necessary if a student wished to raise himself above average ability—the nation was crying for competent men in every branch of life, and never were they more difficult to find than they were to-day. The students of the present generation had not only to make up for the lives of those who had fallen in the war, but also to supply the loss of technical knowledge that those who had served four or five years in the war had necessarily incurred. The object of prizes and studentships was to stimulate self-imposed work, and was only a means to an end—it was better to compete and lose than never to have tried at all.

Books Received.

THE HOME I WANT. By Richard Reiss. (London: Hodder & Stoughton.) Price 2s. 6d net.

THE BRITISH DOMINIONS YEAR-BOOK, 1920. (London: Eagle, Star and British Dominions Insurance Co., Ltd.) Price 1s.

HOUSING AND TOWN-PLANNING NOTES.

Housing Bonds.

The Ministry of Health has now issued regulations governing the issue of bonds by local authorities for the purpose of financing housing schemes. The bonds will be in denominations of £5, £10, £20, £50, £100, and multiples of £100, and will be issued at par. The period of issue will be not less than five years, with interest at the rate of 6 per cent. per annum, except in special cases where the Treasury may sanction a lower rate. Interest will be payable half-yearly, or, if so desired in the case of holdings of £50 and under, yearly. No income tax will be deducted at the source on bonds not exceeding £100 held by one person. The bonds must be accepted by local authorities at face value, together with accrued interest, in payment or part payment for houses erected by the authority.

Regional Planning.

Dr. Addison (Minister of Health) has appointed a Committee to investigate the subject of regional planning in South Wales. The inquiry arises out of the distribution of houses to be erected with State aid in the region of the coal fields, and the Committee is to have regard to: (1) the health and convenience of the industrial population; (2) the physical conditions of the region; (3) the present and probable future development of the coal mines and main industries of the region; (4) the existing and necessary transit facilities; and (5) economy in the provision of water supply, sewerage and other services. Sir W. Seager, M.P., will be the Chairman of the Committee, which will consist of Professor P. Abercrombie and Messrs. I. Edwards, W. T. Griffiths, W. Jenkins, D. M. Jenkins, Alwyn Lloyd A. Lloyd Thomas, G. L. Pepler and Hugh Terrell.

Hackney.

The Housing Committee has recommended the Hackney Borough Council to carry out a scheme for the erection of 111 houses in the borough. The total cost is estimated at £123, 807, including sites, £12, 857; erection of houses, £99,900; and roads £11,050. It is proposed to charge an average net rental of £36 per annum for the houses.

Brighton.

The recommendation of the Housing Committee to let a contract for the erection of 900 houses came under discussion at a meeting of the Brighton Town Council last week. The Committee recommended the acceptance of the tender of a London firm to construct the whole number for £900 per house, but in a letter accompanying the offer it was stipulated that, if they could effect any saving on that, they were to have 12½ per cent., while any excess would have to come out of a fixed profit of £30,000. When the Town Council was about to ratify this arrangement, a deputation of the Brighton Federation of Master Builders, representing seven local firms, asked to be heard in favour of a scheme by which they undertook to construct the houses on the same terms as the London firm. This proposal, made after the publication of the other tenders, was regarded as unusual and contrary to practice, but the master builders declared that they were deterred from tendering in the usual way because they understood no alternative proposals would be entertained, whereas the letter of the London firm had altered the conditions. After a long discussion, a majority of the Council decided in favour of the local firms.

A Time-Limit Contract.

The Manchester Housing Committee has placed a contract with Messrs. Robert MacAlpine & Sons, Ltd., for the erection of 1,000 houses on the Wilbraham-road Estate, Fallowfield. Under the terms of the contract, the contractors undertake to build at the rate of 500 houses per year, and to pay a penalty for every week by which the time is exceeded. It is a condition of the contract that the first 100 houses to be built shall be reserved for the use of workmen brought in from other districts.

Brick versus Stone.

Speaking at Edinburgh last week, Sir George M'Crae (Vice-President of the Scottish Board of Health) said that the local authority at Dumfries put forward a scheme for the erection of stone houses, but, as compared with brick, there would be an extra cost of £117 per house. In one of the Glasgow housing schemes there was a difference of £25,000 in favour of brick. There was a tradition in Scotland in favour of stone houses, and Dumfries was in the heart of the stone quarrying district, but the Board could not approve of stone houses being erected at so much extra cost.

Doncaster.

A scheme has been decided upon for the provision of 42 semi-detached villas at Belle Vue Gardens, Doncaster. About 10 houses are to be erected to the acre, and there will be a space of 50 yards between each house. The accommodation on the ground floor is to provide entrance hall, sitting-room, living room, scullery, lavatory, bathroom, &c., and upstairs three bedrooms will be provided. It is not the intention to let the houses, but to sell them at cost price—about £950 each. They are to be erected by Messrs. Edwards & Co., of Doncaster, who are developing the Hamilton Lodge estate, and Messrs. Wilburn & Atkinson, architects, St. George Gate, Doncaster, are preparing the plans.

Empty Houses: Municipal Purchase.

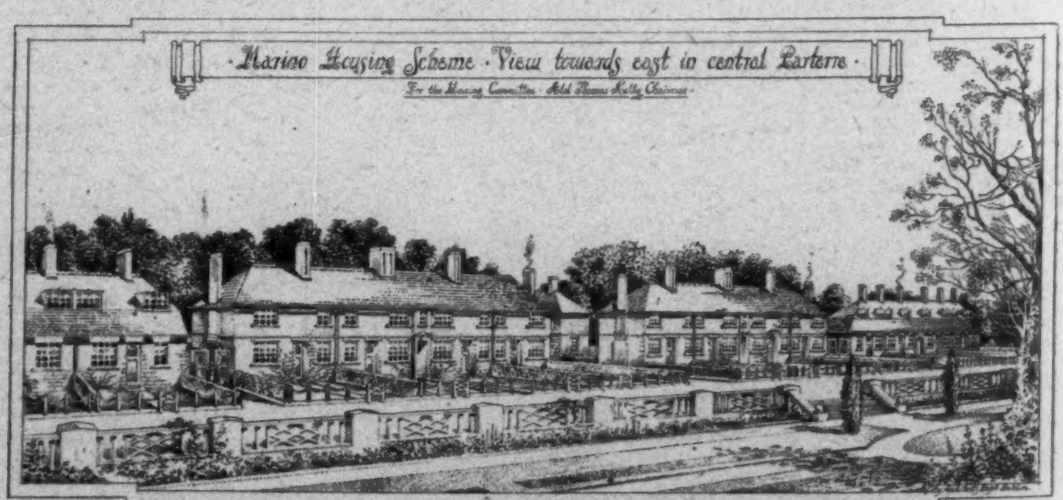
The attention of the Housing Commissioner at Leeds is being called by the Thorne (South Yorkshire) Rural District Council to the fact that in their area at Thorne Moorends there are 26 unoccupied houses, and that they are desirous of purchasing these in order that they may be available for the public. It was stated at the meeting of the Council that the owner would not let them, but was willing to sell at £348 apiece, which the Council considered prohibitive. The Council asked the Government valuer to value the houses, and his report is to the effect that they are worth £200 each. The Council has passed a resolution that it is willing to purchase at that figure, and has laid the facts before the Housing Commissioner.

A Yorkshire Garden Village.

The Doncaster Rural District Council has approved the lay-out of a garden city at Sandal, on the borders of the borough, for Pilkingtons, the St. Helen's glass firm, who have purchased over 700 acres of land in the neighbourhood and are putting up a factory, which will eventually give employment to from 10,000 to 15,000 persons. The garden city scheme provides for 2,000 houses, laid over an area of 250 acres. In the centre of the village there is to be a square, around which will be situated the shops and business premises. Sites for a church, public hall, and hotel are reserved, as well as open spaces for recreation. The houses will be of various types, semi-detached, and will each have a bathroom. Particular attention is being paid to drainage and to subsidence due to coal-mining. Professor Abercrombie, of Liverpool, and Mr. T. H. Johnson, of Doncaster, are the joint architects.

A Lancashire Garden Village.

The Aston Mill Co., of Tarleton, near Preston, have commissioned the Economic Building Corporation to lay out and erect a garden village, and building operations are to begin at once. The scheme is to provide up-to-date dwellings for the mill workers. The houses will be constructed of concrete. As an example of the speed with which housing contracts can be dealt with, we are informed that the Economic Building Corporation was approached on Tuesday last week, a decision was arrived at on Friday, and the Corporation's surveyors left London on Sunday; the work is now under way with the object of completing the whole of it this year.



Dublin Corporation "Marino" Housing Scheme.
Mr. C. I. MacCarthy, F.R.I.A.I., Architect. (See our issue for Feb. 27).

WEEKLY HOUSING RETURN.

During the week ended February 21, tenders were submitted for 4,022 houses. Tenders for 4,687 were approved, bringing the total number of houses in tenders submitted to 54,988, and in tenders approved to 49,635. Local authorities' schemes dealt with during the week follow :—

Building Sites.

Schemes Submitted.—The number of schemes submitted was 162, bringing the total to 8,696 (approximately 58,700 acres). The larger new schemes are as follows :—

Urban.	Acres.
Scunthorpe	90·00
Stoke-on-Trent (2 sites)	56·82
Goole	45·56
Bilston (4)	39·86
Penge	24·62
Mitcham	15·00
Maldens and Coombe]	10·00
Rural.	**Acres.**
Cockermouth (9 sites)	47·34
Hursley (2)	13·00
Thornbury (3)	12·18
Chester-le-Street	10·71
Biggleswade (5)	10·20

Schemes Approved.—The number approved was 179, bringing the total to 4,606 (36,000 acres). Larger schemes newly approved follow :—

Urban.	Acres.
Liverpool (2 sites)	240·00
Burnley	51·34
Hotton	42·00
Merthyr Tydfil (2)	33·83
Gelligaer (2)	26·43
Birstall	24·98
Saddleworth	24·00
Willenhall (2)	21·98
Dudley (2)	18·70
Hastings	11·76
Esher and the Dittons	10·00
Hurst	10·00
Westslade	10·00
Rural.	**Acres.**
Northwich	34·90
Chester-le-Street (2 sites)	24·54
Wolton (10)	20·10
Chesterfield (3)	14·15

Lay-Outs.

Schemes Submitted.—Eighty-three schemes were submitted, by 55 local authorities, bringing the total to 2,699. The new schemes are as follows :—

Urban.—Bacup, Barnes, Battle, Bredbury and Romiley, Brentford, Burgess Hill, Caerphilly, Carlton, Colchester, Cuckfield, Cudworth, Darwen, Itchen, Nailsworth, Newport, North Bromsgrove, North Walsham, Oldbury, Pontypridd, Scunthorpe, Stone, Teddington, Thetford, Twickenham, Wandsworth, Warrington, Wenlock.

Rural.—Amersham, Blandford, Chelmsford, Chorley, Crediton, Dore, Droxford, Escrick, Eton, Beckenham, Grantham, Hertford, Hollingbourne, Maldon, Mayfield, Midhurst, Plomesgate, Reigate, St. Thomas, Samford, Stafford, Stanstead, Steyning East, Tendring, Thakeham, Tonbridge, W. Ashford. County Council.—Worcestershire.

Schemes Approved. — 116 schemes were approved, bringing the total to 2,145 :—

Urban.—Alnwick, Ardsley E. and W., Bacup, Belper, Biggleswade, Bingley, Birmingham, Brampton and Walton, Bredbury and Romiley, Burgess Hill, Carlisle, Charlton Kings, Colchester, Darwen, Gateshead, Glyncorrwg, Horsforth, Litherland, Manchester, Marlborough, Middleton, Newbigging, Newport, New Romney, North Bromsgrove, Oldbury, Portsmouth, Sale, Scunthorpe and Frodingham, Skelton and Brotton, Spenborough, Stone, Todmorden, Twickenham, Uckfield, Wakefield, Wandsworth, Wenlock.

Rural.—Alnwick, Amersham, Basford, Brixworth, Bumpstead, Castle Donington, Clutton, Daventry, Dore, Eton, Feckenham, Glanford Brigg, Grantham, Hadham, Hardingstone, Hertford, Hinckley, Kingsclere, Mayfield, Milton, Morpeth, Northampton, St. Germans, Spalding, Stafford, Thornbury, Tonbridge, Warminster, Warmley, Westbury and Whorwellsdown, Whiston, Wincanton, Winslow, Wortley. County Councils.—Worcestershire, Yorkshire (W. Riding).

House Plans.

Schemes Submitted.—Schemes representing 4,523 houses were submitted. The total now represents 123,680 houses. The new schemes are as follows :—

Urban.—Adwick-le-Street, 80 houses; Bacup, 64; Barnes, 98; Bishops Stortford, 48; Bootle, 26, Bredbury and Romiley, 9; Brentford, 44; Burgess Hill, 14; Bury, 24; Carlton, 18; Chepping Wycombe, 28; Colchester, 8; Cuckfield, 2; Cudworth, 126; Darwen, 30; Denholme, 12; Dudley, 6; Grange-over-Sands, 4; Hessle, 54; Itchen, 14; Littlehampton, 6; Nailsworth, 22; Newport, 40; Northampton, 48; North Bromsgrove, 12; Nottingham, 276; Orrell, 2; Pontypridd, 124; Portsmouth, 10; Prestatyn, 32; Rochester, 20; Saddleworth, 26; Salford, 72; Scunthorpe and Frodingham, 136; Sowerby Bridge, 13; Stone, 40; Thetford, 74; Tonbridge, 187; Twickenham, 145; Wandsworth, 177; Worsborough, 62.

Rural.—Amersham, 24 houses; Atcham, 54; Berkhampstead, 6; Biggleswade, 273; Chelmsford, 71; Chorley, 30; Crediton, 18; Crowmarsh, 10; Culham, 8; Droxford, 12; East Grinstead, 2; Epping, 12; Escrick, 6; Eton, 24; Feckenham, 28; Grantham, 16; Headington, 4; Hertford, 16; Hitchin, 14; Hollingbourne, 12; Llantrisant and Llantwit Fardre, 1,130; Maldon, 24; Malpas, 22; Mayfield, 9; Midhurst, 30; Northwich, 236; Plomesgate, 6; Reigate; Reigate, 8; Romford, 39; St. Thomas, 4; Samford, 4; Stafford, 10; Stanstead, 4; Stockbridge, 50; Tendring, 4; Thakeham, 12; Tonbridge, 26; Wantage, 4; W. Ashford, 8. County Council.—Worcester, 20.

Schemes Approved.—Schemes representing 5,239 houses were approved. The total now approved represents 111,426 houses.

Urban.—Adwick-le-Street, 80 houses; Bacup, 54; Bath, 237; Belper, 34; Biggleswade, 40; Bootle, 26; Brampton and Walton, 6; Bredbury and Romiley, 9; Burgess Hill, 14; Bury, 24; Charlton Kings, 40; Colchester, 8; Cudworth, 126; Darwen, 30; Dudley, 67; Glyncorrwg, 92; Great Yarmouth, 45; Hammersmith, 45; Ilkley, 106; Maidenhead, 40; Merton and Morden; Newport, 40; New Romney, 4; Northampton, 48; North Bromsgrove, 12; Nottingham, 276; Orrell, 80; Portsmouth, 243; Rochester, 20; Ryton, 82; Sale, 11; Salford, 72; Salisbury, 54; Scunthorpe and Frodingham, 136; Skelton and Brotton, 38; Stone, 40; Tonbridge, 187; Twickenham, 145; Uckfield, 12; Wakefield, 46; Wandsworth, 177; Weston-super-Mare, 3; York, 21.

Rural.—Amersham, 24 houses; Atcham, 54; Biggleswade, 269; Brixworth, 9} Bumpstead, 12; Castle Donington, 30; Chorley, 70; Colwyn, 8; Culham, 8; Darlington, 26; Eton, 44; Beckenham, 28; Godstone, 8; Grantham, 16; Hadham, 8; Headington, 24; Hertford, 26; Highworth, 34; Hinckley, 20; Hitchin, 70; Kingsclere, 10; Llantrisant and Llantwit Fardre, 1,130; Malpas, 22; Mayfield, 9; Milton, 12; Morpeth, 2; Northwich, 236; Romford, 16; St. Columb Major, 84; St. Germans, 10; St. Ives, 4; Stafford, 10; Tonbridge, 26; Wantage, 12; Whiston, 4; Wincanton, 4. County Councils.—Huntingdon, Worcestershire, Yorkshire (W. Riding).

Liverpool.

The Liverpool Corporation has accepted an estimate from the Economic Building Corporation, Ltd., for 2,000 houses, subject to the approval of the Ministry of Health. The houses are to be constructed within two years, and it is expected to commence work shortly.

THE LATE MR. PHILIP COLDWELL THICKNESSE.

An Appreciation.

The interment took place last week, at St. Mary's Church, Eastham, Cheshire, of Mr. Philip Coldwell Thicknesse, a well-known figure in architectural circles. The late Mr. Thicknesse was born on January 28, 1860. He was the third son of Bishop Thicknesse, who is still living, at the age of 91, at Peterborough, and of Anne, the daughter of R. A. Thicknesse, for some years M.P. for Wigan. He came of a notable family who, from father to son for over 500 years, occupied the same old manor near Crewe on the borders of Cheshire and Staffordshire, before they moved into Lancashire. Educated at Marlborough College, Mr. Thicknesse took an early interest in domestic and ecclesiastical architecture of the northern counties, while his study of Peterborough Cathedral was in itself an education. He was articled to Mr. Norman Shaw, R.A., whose office produced, either through himself or through his pupils, some of the most remarkable work of the last 40 or 50 years. At the conclusion of these articles he went to Liverpool to supervise work of an important nature for Mr. Shaw, and immediately afterwards, in 1884, entered into partnership with Mr. W. E. Willink, under the style of Messrs. Willink & Thicknesse, an association that has lasted until the present.

In the many schemes for which he was responsible in different parts of the country, Mr. Thicknesse displayed unusual versatility. He was a prolific worker and possessed in a remarkable measure that quality of the artist to whom the work is of greater importance than the reward. In the sphere of domestic architecture he designed many country and city houses and portions of many churches were the result of his deep interest in ecclesiastical matters. His versatility was nowhere more evident than in his work for educational bodies—a number of elementary schools, additions to great public schools such as Shrewsbury and Uppingham, portions of the Liverpool University—it is difficult to say which were the most successfully planned. But it was probably in the adornment of big liners—he was responsible for a couple of dozen—that Mr. Thicknesse took the keenest delight. In many Cunard ships, including the *Franconia* and *Laconia*, and in vessels of the Booth line, his love for and knowledge of decorative architecture had full scope and equally full success. Then came the Cunard Building at Liverpool, which has received praise from architects of all nationalities.

There is reason to believe that if it had been carried out his design for Messrs. Harrod's projected building at Liverpool would have been acknowledged in its fine proportions to have been remarkable, even in the city which contains St. George's Hall.

Amongst his many friends, Mr. Thicknesse numbered contractors and workmen who carried out the work he planned, and his loss will be regretted by none more than by these. His love of beauty was not confined to architecture. He had a great knowledge of the habits of birds and wild animals, and a keen love of flowers and the open air.

C. L.

OBITUARY.

Mr. Charles Garlick.

The death took place on Monday last of Mr. Charles Garlick, of the firm of Messrs. Garlicks, contractors, Coventry. A few weeks ago he underwent an operation, and apparently recovered his health, but on Monday he died suddenly. Mr. Garlick's firm carried out many important contracts in Coventry, including the building of St. Margaret's Church and the Humber works. He was hon. secretary and afterwards president of the local Master Builders' Association, and in recognition of his work for his fellow tradesmen he was lately given a complimentary dinner.

THE BUILDING TRADE.

THE DESIGN OF FURNITURE.

A CONFERENCE was recently held at Olympia, under the auspices of the Royal Society of Arts, for the purpose of initiating a scheme whereby the manufacturers and distributors in the house furnishing industry might have an opportunity for interchanging views with regard to the development of the trade as to both quality and quantity. The Right Hon. Sir Auckland Geddes (President of the Board of Trade) was in the chair, supported by Sir Henry Trueman Wood and Sir Frank Baines, C.B.E. (Principal Architect of H.M. Office of Works).

SIR FRANK BAINES said that the production of well-designed goods of good quality was quite justifiable from a business point of view, and the products of men like Josiah Wedgwood were a national asset. He suggested that the fine arts should be left alone for a bit, and more attention given to industrial art. A step in the right direction was taken during the war by the formation of the Design and Industries Association, which accepted the possibility of utilising the highest principles of design with regard to the manufacture of goods by machinery. Mass production was the essence of our national life, and the objections to machine-made goods had to be got rid of. Industrial art was not a question of pure initiative without training or of exact knowledge; it had to be learned like every other business that had to produce goods for a profit. He agreed that originality was necessary in these matters, but it was also vitally necessary to have a great tradition in design and a knowledge of the art of the past by which we gained our supremacy. He thought the arts and crafts movement in the past had been a nursery and hot-house for the production of mere trivialities and useless things for the rich. The arts and crafts movement was useless, and should be discarded. The manufacturers were perfectly contented with the present state of affairs, and could sell whatever they made. Many of the manufacturers' catalogues displayed an abominable list of atrocious designs; they made up for quality with quantity, and it was essential that these designs should be improved. It was true that manufacturers were at present quite satisfied with their profit, but even greater returns could be obtained if the goods were better designed. Blame was attaching to the Government, to the manufacturers, and to the public. The manufacturers would say that the Government had failed to assist or instruct them, and they were simply supplying the requirements of the public, but the public had necessarily to choose the bad if the good was not available.

MR. C. TENNYSON, C.M.G. (Federation of British Industries), said the blame lay not upon the manufacturers, but upon the public. He did not think it was a fact that, given the choice of a good and a bad thing, the public would always choose the best. A small section of the public might do so, but the manufacturer had to concern himself not with turning out small numbers, but with mass production. The Government should be advised as to what was good design, and formulate its policy accordingly. Design originated with the individual craftsman and his tools, but the machinery now used could not be run without a huge organisation and a great many workmen; the problem was to get the mind of the craftsman to operate the machine. The present position could be improved in two ways: (1) To educate the public as to what was good design, and to want it; and (2) for the manufacturers to manufacture artistic goods and risk the chance of not selling them.

MR. H. E. W. TAYLOR (London Cabinet and Upholstery Trades' Federation) said it was no use asking the manufacturers to lead the public in the matter of taste—it was the duty of the Government. The manufacturers would supply what the public asked for, and the public should be educated to demand well-designed goods.

MR. A. LONDON (British Institute of Industrial Art) said that the Institute, with offices at 217, Knightsbridge, S.W., had been formed to help the manufacturers. The British Consuls were sending to the Institute samples of goods which were selling best abroad, and he invited all those interested to get into touch with him. They hoped shortly to hold exhibitions in London and the provinces, the first one, consisting of furniture, to be held in May next.

MR. P. A. WELLS (Shoreditch Technical Institute) said he hoped that endeavours would be made to furnish the new cottages in a simple, cheap and homely way, and he suggested that architects in various districts should consult with the local manufacturers in order to further this end. The public should ensure that the furniture, although cheap, was not so atrociously ugly as it was to-day, and that it was fit for its purpose. It was possible to make cheap furniture which would be pleasant to look upon, and there were plenty of designers about.

MR. D. M. DAVIES, on behalf of the manufacturers, said that furniture makers would not catalogue their best designs, as they would be of great use to their competitors.

A resolution was passed expressing the appreciation of the conference of the efforts of the Royal Society of Arts and the British Institute of Industrial Art to extend the use of art in industry, and expressing the opinion that a committee should be formed under the auspices of the Royal Society of Arts to investigate with a view to securing a definite result of the propaganda undertaken by the Society.

THE COLLAPSE OF A CONCRETE ROOF.

AN inquest was recently held at Birmingham relative to the death of five workmen who were killed by the collapse of a concrete roof at Broad-street, Birmingham, on January 23. Evidence was given by Mr. S. N. Cooke, of the firm of Peacock, Bewlay & Cooke, the architects for the building, Mr. Moritz Kahn, of the Trussed Concrete Steel Co., Ltd., the designers of the concrete work, and Mr. R. A. Willes, of Greaves, Bull and Lakin, the firm which manufactured the cement, and Mr. Lyde (for the Birmingham Building Trades' Association) and Mr. B. H. Harston (H.M. Inspector of Factories) were present.

Mr. S. N. Cooke, in evidence, said he prepared the general plans for the building, and the designs for the concrete work supplied by the Trussed Concrete Steel Co. seemed satisfactory. In his opinion, the work was being satisfactorily carried out, although on one occasion, when he visited the job, he was not satisfied with the way the concrete was being mixed when the concrete roof was being fixed, and the steel rods in the slabs were slightly out of position. The displacement of the rods was not of substantial importance, and the beams and stanchions appeared to be quite right. When the work was started, the materials used for the concrete were according to specifications, and they were mixed correctly. He designed brick piers to support the roof, and these should have been carried right up to the roof. Several witnesses had stated that there was a gap of several inches between the tops of the piers and the roof, but he had not noticed that. This defect could not have been seen without specially looking for it, and it was surrounded with hoardings and props.

Mr. Moritz Kahn said that the roof was designed on the understanding that it would be supported by the brick piers, and as these were not built up to the full height the roof was insufficiently supported. A great deal of the concrete, which he examined after the accident, had the appearance of being immature, and was not strong enough. It was not properly set, and when handled broke easily. He saw evidence of the concrete slab having been attacked by frost. A considerable portion was honeycombed or porous, and would not adhere to the steel. A number of bars had "pulled out" in the debris, thus showing lack of cohesion; also, in many instances the stirrups had not been properly placed, and the hooks entirely omitted.

Mr. Arthur Harrison, F.R.I.B.A., who had been instructed by the Coroner to assist in ascertaining the cause of the accident, stated that the area of the roof which collapsed was 270 square yards, and the weight, including the asphalt covering, about 150 tons. Pieces of the concrete debris invariably broke into small fragments when dropped, and pieces could easily be broken off with the fingers. He found that the concrete was damp inside, that the moisture had not properly dried out, and that the composition varied considerably. The concrete was not what would be expected in good work; in many places it was honeycombed, and the mixtures were not even. Seven days after the accident, pieces of the concrete became dry and of a lighter colour, and hardened considerably. He was of opinion that the concrete was not sufficiently set when the centering was withdrawn, which alone might account for the collapse, and certainly would form a very large contributory cause. The early application of the asphalt covering very much delayed the setting of the concrete. The fragile nature of the concrete, and the way in which the steel reinforced bars had "pulled out" of the concrete without fracture, tended to confirm his opinion that the concrete had not sufficiently set when the centering and the propping was removed. The debris gave evidence that the supporting beams were constructed independently of the roof slab; the upper reinforcements and stirrups in the beams were placed below the underside of the roof slab instead of in the upper surface, and the concrete in the beams and that in the roof slab was very different in quality. The improper placing, in many instances, the bending of the reinforcement, the inferior quality of the concrete, the bad weather during the setting period, and the early application of the asphalt, were all factors which tended towards disaster. He thought the architects' plans had been prepared with reasonable care and skill, as also had the plans and specifications supplied by the Trussed Concrete Steel Co. The weather when the work was being carried out (November) was the worst possible for such work, as there was a great deal of rain and frost.

Professor F. C. Lea (Professor of Civil Engineering, Birmingham University) said he thought the collapse was due to several causes, the most important of which was the bad condition of the slabs over one of the beams, consequent on the quality of the concrete and the probable lack of adhesion.

In summing up, the Coroner said there was no evidence of neglect against the interested parties, and the jury brought in a verdict of "Accidental Death."

A War Memorial Tablet.

A tablet in memory of the men of the parish who fell in the war has been unveiled at the Parish Church of St. Oswald, Sowerby, Yorks. The tablet, which was designed by Mr. W. H. Brierley, F.S.A., of York (the diocesan architect), is of Hopton Wood stone, inscribed with 53 names of the fallen.

RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the Building Trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that may occur :—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters	Masons' Labourers.	Bricklayers' Labourers	Plasterers' Labourers.
Aberdare	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Accrington	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Altrincham	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Ashton-under-Lyne	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Barnsley	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Barrow-in-Furness	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Barry	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Bath	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6	1/6	1/6
Bedford	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Birkenhead	2/–	2/–	2/–	2/–	2/–	2/–	2/–	1/6½	1/6½	1/6½
Birmingham	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/10½	1/8	1/8	1/8
Bishop Auckland	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Blackburn	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Blackpool	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Bolton	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Bournemouth	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/2½	1/2½	1/2½
Bradford	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Bridgwater	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/2½	1/2½	1/2½
Brighton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Bristol	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/10½	1/7½	1/7½	1/7½
Burnley	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Burton-on-Trent	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
Bury	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Cambridge	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/5½	1/3½	1/3½	1/3½
Cardiff	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Chatham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Chelmsford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/1½	1/1½	1/1½
Cheltenham	1/6½	1/6½	1/6½	1/6½	1/6½	1/7½	1/6½	1/4½	1/4½	1/4½
Chester	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Chesterfield	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Colchester	11	11	11	1/–	11	1/–	9½	8½	8½	8½
Coventry	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/10½	1/8½	1/8½	1/8½
Crewe	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½		1/3½–1/5½	
Darlington	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Derby	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½	1/6½	1/6½
Doncaster	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Dudley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
Durham	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
East Glam. and Mon. Valleys	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Exeter	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/4½	1/3½	1/3½	1/3½
Folkestone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/1½	1/1½	1/1½
Gloucester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Grantham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
Grays	1/11½	1/11½	1/11½	1/11½	1/11½	2/–½	1/10½	1/8½	1/8½	1/8½
Grimsby	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Great Yarmouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/3½	1/2½	1/2½	1/2½
Guildford	1/6½	1/6½	1/6½	1/6½	1/6½	1/7½	1/5½	1/3½	1/3½	1/3½
Halifax	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Harrogate	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Hartlepools	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Hastings	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Hereford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Huddersfield	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Hull	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Ipswich	1/6½	1/6½	1/6½	1/6½	1/6½	1/9½	1/4½	1/2½	1/2½	1/2½
Lancaster	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Leamington Spa	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
Leeds	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Leicester	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/10½	1/8½	1/8½	1/8½
Lincoln	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/10½	1/8½	1/8½	1/8½
Liverpool	2/–½	2/–½	2/–½	2/–½	2/–½	2/–½	2/–½	1/9½	1/9½	1/9½
Llanelly	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
London	1/11½	1/11½	1/11½	1/11½	—	2/0½	1/10½	1/8½	1/8½	1/8½
Loughborough	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½	1/6½	1/6½
Luton	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/5½	1/5½	1/5½
Maidstone	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Manchester	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Mansfield	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½	1/6½	1/6½
Merthyr Tydfil	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Middlesbrough	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Newcastle-on-Tyne	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Newport, Mon.	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Northampton	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½	1/6½	1/6½
Norwich	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/4½	1/2½	1/2½	1/2½
Nottingham	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/10½	1/8½	1/8½	1/8½
Oldham	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Oxford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Plymouth	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/5½	1/5½	1/5½
Pontypridd	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Portsmouth	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/2½	1/2½	1/2½
Preston	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
Reading	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/5½	1/4½	1/4½	1/4½
Rochdale	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Rochester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Rugby	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½	1/6½	1/7½
St. Albans	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/3½	1/3½	1/3½
St. Helen's	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Scarborough	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Sheffield	1/11½	1/11½	1/11½	1/11½	1/11½	2/–½	1/8½	1/8½	1/8½	1/8½
Shrewsbury	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½	1/6½	1/6½
Southampton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/2½	1/2½	1/2½
Southend-on-Sea	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/2½	1/2½	1/2½
Southport	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/5½–1/6½	
South Shields	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Stockport	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
stockton-on-Tees	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Stoke-on-Trent	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½	1/6½	1/6½
Stroud	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/5½	1/3½	1/3½	1/3½
Sunderland	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Swansea	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Taunton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½
Torquay	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/3½	1/3½	1/3½
Wakefield	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½
Walsall	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Warrington	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½		1/7½–1/7½	
West Bromwich	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/8½	1/8½	1/8½
Wigan	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	2/10½		1/7½–1/7½	
Windsor	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½	1/11½		1/7½–1/7½	
Wolverhampton	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/6½	1/4½	1/4½	1/4½
Worcester	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/6½	1/6½	1/6½
York	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/6½	1/6½	1/6½

The Masons' rate given is for bankers: fixers usually ½d. per hour extra. * War bonus of 2s. per week granted. † War bonus of 3s. per week granted. ‡ War bonus of 3s. 6d. per week granted. §§ War bonus of 3s. per week granted. ¶ War bonus of 7s. 6d. per week granted. ** These rates include the 12½ per cent. bonus. [The above rates, unless otherwise shown, are exclusive of 12½ per cent. bonus.—ED.]

"SKYSCRAPERS" AND AIRCRAFT.

WE have received the following letter from Mr. Maurice Kiddy, Assistant Secretary of the Society of Architects :—

SIR,—In a recent letter to the *Times*, Lord Montagu suggests "skyscrapers" as a solution of the housing problem, whilst he makes a further suggestion that some groups of skyscrapers should act as piers in supporting a glass landing ground for aircraft. These suggestions cannot be taken seriously either by architects or by aviators.

In arguing that those who lived in the top stories of the 300-foot skyscrapers would enjoy purer air, Lord Montagu states that anyone who has flown over London at 150 feet will agree that the smoke-cloud is non-existent at that height. I am very much inclined to doubt whether any pilot has ever been foolhardy enough to attempt a prolonged flight over London at such a low altitude, but if it has been done I am sure that he was very intent on matters quite other than his sense of smell in regard to the smoke-cloud! I believe the Air Ministry Regulations still forbid a flight over London at a lesser height than 10,000 feet, and they are very wise in so doing. It is not proposed that every building should be a skyscraper, and I am inclined to think the upper stories would suffer from the foul air, smoke and gases discharged from the chimnies of the humbler buildings. Another point which has not been touched upon by the "pure air" theorists—for Lord Montagu is not alone in this argument—is the question of those who are unfortunate enough to live in the lower stories. One imagines that the children would be expected to play in the wells of the buildings, which medical science has proved to be perfect death-traps, and a regular haunt of tubercular germs. It is also very doubtful whether the sub-soil of London would stand the erection of these skyscrapers.

From an aviator's point of view, the suggestion for a glass landing-ground supported by skyscrapers, and presumably covering an area of streets, must be treated either as a joke or as a tragedy. Lord Montagu having been connected with the Air Board, one is inclined to the former view. In the daytime the light would render the glass partially invisible. At night, when one presumes that the mail-carrying work would be done, the pilot, looking down at the street lights, and imagining himself to be quite safe, would suddenly meet the glass roof, and the alleged curse of the R.A.F.—a "glass" too much—would become a curse indeed! Even if a roof aerodrome were a feasible proposition, glass would seem to be a very undesirable surface for it. It would either get slippery like ice, and lead to accidents when "taking-off," or rough, which would mean that the tyres on the under carriages of the machines would get torn and lead to tyre-bursts, with further accidents.

With regard to the skyscrapers acting as piers to the landing-ground, the problem of the placing of the chimney stacks would be somewhat baffling to the architect, and one wonders how he would overcome it, having due regard to the "pure air" theory!

Those who advocate roof landing-grounds, and there are, unfortunately, many persons so afflicted, seem always to ignore the multitude of dangers from accidents, both whilst flying and whilst "taking-off" or landing, and to the neighbours as well as to those directly concerned, which are at present inseparable from such a scheme. The authorities who have governed flying from its inception (and it must be conceded that they are the true "experts") have always placed the safety of the public before the convenience of the pilot or the aircraft firm, and up to the present aerodromes have been placed as far from a town as the railways governing supplies will permit. Few people, comparatively speaking, have witnessed a bad "crash"; fewer still have seen—as the writer unfortunately has—a big machine fall into a crowded street; it needs only this to cure for ever the advocates of central aerodromes for large towns, or the still more fantastic propositions for roof landing-grounds.

PROPOSED NEW BUILDINGS AND OTHER WORKS.*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works, at the time of publication, have been actually commenced. Abbreviations.—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

ASCOT.—It is proposed to restore the front of the grand stand at Ascot, built in 1839. The Windsor R.D.C. have decided that the work, if done quickly, is not likely to interfere with the building of houses.

BARRY.—The Whitmore Bay Pavilion Syndicate Co., Ltd., Barry, have submitted plans to the U.D.C. of buildings to be constructed over 7½ acres of land on the Plymouth Estate. The plans have been prepared by Mr. S. Swash, F.R.I.B.A., of Newport, and the building will include cafes, concert hall and dancing pavilion, the frontage being chiefly occupied by shops, the whole of the buildings overlooking the bay.

BOURNE.—The Dean of Guild Court has passed plans by Mr. H. M. Cadell, of Grange, for the erection of a block of model cottages at Bridgeness.

BRIDLINGTON.—Plans passed: Walker, Son & Field, house, Carr-lane, for Mr. Bethel Croft; Blackmore & Sykes, garage, Quay-road, for Mr. A. E. Whitehead; Mr. M. B. Parkin, shop window, 3 Bridge-street, for Messrs. Pettinger Bros.; Mr. M. B. Parkin, alterations to "Nansen Chalet," Marine-drive, for the Misses Flather; Mr. M. B. Parkin, alterations to "Summerhjem Chalet," Marine-drive, for Mr. H. Einersen; Mr. M. B. Parkin, alterations to "Pentrich," Vernon-road, for Mr. Rose; Mr. M. B. Parkin, re-roofing of premises in Prospect-street, for Mrs. Nicholson, and Waite and Vaux, addition at the "Amusement Centre," Promenade, for Messrs. Gadsby, Son, Waite & De Grey.

CHAILEY.—The R.D.C. has approved plans by the Sussex C.C. for cottages at Ringmer.

CHELMSFORD: Plans passed by T.C.: Store shed, Coval Hall, Cedar-avenue, for Mr. Frederick J. French; pair of houses in Swiss-avenue, for Mrs. J. Gowers; stock room, etc., Market-road, for the Eastern Automobiles, Ltd.; wash-house, 20, Park-avenue, for Mr. S. J. Ballard; bungalow, Broomfield-road, for Mr. Jesse C. Pryke.

CHRISTCHURCH.—Plans passed by T.C.: Three houses at Fairmile, Messrs. Golton Bros., for Mr. A. Higgs; additions to Mudeford House, Mr. A. R. Tiller, for Mr. Kindersley.

CLOWN.—The architect, Mr. Haslam Worksop, has submitted plans for the lay-out of the 76 houses to the R.D.C., and their adoption is to be recommended to the Commissioner, subject to certain alterations.

COLN ST. ALDWYN AND QUENINGTON.—The water supply works in these districts are to be modified and extended, a scheme submitted by Major T. J. Mose Flower, consulting engineer, of Westminster and Bristol, having been approved, and the work will be submitted to tender as soon as the necessary contract drawings, specifications, &c., have been prepared. The new works comprise a new rising main, several new mains and branches, the introduction of a modern system of filtration, new pumps in duplicate worked by water turbine, and the erection of a reinforced concrete reservoir.

DEPTFORD.—Plans passed by B.C.: At Messrs. Biggs works, 117b, Church-street, for Mr. H. L. Holloway; at 27, 29, and 31, Frankham-street, for Mr. R. Grange; at 1 and 2, Alverton-street, for Mr. Newby.

DUDLEY.—Plans passed by T.C.: National Federation of Discharged Soldiers and Sailors, Dudley, alterations to house and new billiard room, Waddams Pool House, Hall-street, Dudley; Mr. J. Guest, stable and shed, Cradley-road, Netherton, Dudley; Rev. A. H. Phelips, parish hall, King-street, Dudley; Mr. A. Richardson, four shops with eight offices and two work rooms over, High-street and New-street, Dudley; Mr. A. Betteridge and Mr. A. Williams, additions to premises, 35 & 38, New-street, Dudley; Mr. W. G. Moore, additions, 185A, High-street, Dudley; Mr. W. H. Tilley, four dwelling houses, King-street, Netherton, Dudley; J. Chilton & Co., petrol filling post, Wellington-road, Dudley; J. Bissell & Sons, transformer house and store shed, Halesowen-road, Netherton, Dudley.

EAST HAM.—Plans passed by B.C.: Alterations and additions for Heywood and Heywood, 715–7, Romford-road; additions to existing Labour Hall, Katherine-road, for Mr. E. B. Ball; additions, 281, High-street, North, for Buttrey, Ltd.

EDINBURGH.—The return of building plans for the City for last month showed an estimated total of £56,550, against £8,560 in January last year, and £860 in the same month of 1918. Warrants have been granted to the North British Rubber Co., for an extension to their tyre department, and the erection of a box-making shop involving an expenditure of between £40,000 and £50,600, the plans of which were prepared by Mr. F. E. B. Blanc. Warrants were granted also to Messrs. Bertrams, Scienees, for an addition to their engineering works at an estimated cost of £16,000, and shop alterations to be undertaken by Aitken, Melrose & Co., at George-street, are to cost £12,000. A new factory is to be erected by an artificial teeth manufacturing company at Westfield-road at a cost of £12,000, and extensions at Bell's Brewery, Pleasance, are to cost £13,000. The sum of £19,000 is also involved in the erection of a motor works at Semple-street by Mr. J. R. Alexander.

GREENOCK.—The Dean of Guild Court has passed plans for a new picture house in West Blackhall-street. The building will provide seating accommodation for 1,450 persons. The proprietor is Mr. James Thomson, Newark, Sanquhar, Dumfriesshire.

HESTON AND ISLEWORTH.—Plans passed by U.D.C.: Mr. J. R. Williams, four houses, College-road, Isleworth; Mr. L. Fowler, alterations and additions, 149, High-street, Hounslow; Messrs. Wiggins & Hawthorn, four houses, Carrington-avenue, Hounslow; Messrs Roper, Son, & Chapman, four houses, St. Stephen's-road, Hounslow; Mr. W. M. Temple, additions to house, 680, London-road, Isleworth; Messrs. James Evans, engineering works, Worton-road, Isleworth; Messrs. Lever Bros., glass roof at Messrs. A. & F. Pears' factory, Isleworth.

ILFORD.—Plans passed by U.D.C.: Mr. F. W. Hitchcock, garage and store, Cambridge-drive; Mr. W. H. Knox, two bungalows, 20 & 26, Water-lane, one bungalow, 24, Water-lane, and one bungalow, 22, Water-lane; Mr. W. J. Hobbs, four houses and garage, 5–11, The Crescent, four houses, 342–348, Cranbrook-road, and new w.c.'s, 334 & 338, Cranbrook-road; Messrs. G. & J. W. Fox, 275, Ley-street, four houses, 37–43, Bradford-road; Mr. W. H. Knox, six bungalows, Holmwood-road; Mr. F. G. Faunch, alterations to 63, Cranbrook-road; Mr. C. Stedman, 36, Abbey-road, drainage to Newbury Park Congregational Church; Mr. W. J. Hobbs, two houses, 292–294, Cranbrook-road; Mr. P. Brand, two houses, 46 & 48, Beehive-lane; Mr. A. P. Griggs, 37, The Drive, eight houses, 18–32, Cranbrook-rise.

KENT.—The County Council has sanctioned the following loans: £375 to improve Lydd Council school, £950 to improve Sandhurst Council school, and £375 to improve the Ashford-road (Tenterden) school; £3,200 to improve Rochester Junior Technical school; £820 to purchase land for the Sheerness County School for Girls; £1,700 for the improvement of Sheerness Junior Technical school; and £2,800 to purchase site of Sittingbourne County School for Girls.

KIRK SANDALL.—The scheme for providing a new garden village at Kirk Sandall, near Doncaster, in connection with Messrs. Pilkington Bros.' plate-glass works, provides for about 2,000 houses over an area of 250 acres, and the lay-out has been approved by the Doncaster R.D.C.

LANCASTER.—The T.C. has agreed to enter into an arrangement with the Master Builders' Federation to build 600 houses at a basic price of £703 12s. 6d. each, prices to increase or decrease as labour and materials become cheaper or dearer.

LEIGH.—A Government inquiry has been held for sanction to borrow £24,000 for extensions to Leigh and Atherton joint sewage works.

LEYTON.—Plans passed: Mr. C. J. Sherwood, alterations at 827, High-road, Leytonstone; Mr. H. W. Young, new lavatories at Manders-yard, Capworth-street; Mr. F. J. Sturdy, additions to X-ray room at Infirmary, Whipps Cross-road; London Electric Wire Co. & Smiths, Ltd., extension to boiler house at Wire Works, Church-road; Mr. R. W. Puddicombe, alterations to 690, High-road, Leytonstone; Mr. H. Wilson garage at 503, Lea Bridge-road.

LOWESTOFT.—An M.H. inquiry has been held into the application of the T.C. to borrow £4,116 for an extension of Kirkley cemetery.

LURGON.—The U.D.C. proposes to erect 350 houses.

MANCHESTER.—The tender of Sir Robert Macalpine & Sons for the building of 1,000 houses, has been accepted by the Housing Committee.

MUSSELBURGH.—The Dean of Guild Court has sanctioned plans of the Inveresk Paper Co., for the erection of sixteen houses at Stonybank-terrace.

NEWARK.—A sugar factory is to be erected on the Kelham Estate for the Home Grown Sugar Co., Ltd.

NORTHAMPTON.—Plans passed by T.C.: Waiting room (dental), 85, St. Giles'-street, for Mr. L. H. Crockett; alterations, 5 & 7, Sheep-street, for the Law, Accident Insurance Co.; additions, Park-avenue, for Mr. Gordon Soutar; kitchen, Hull Memorial Buildings, Bridge-street, for the Rev. G. C. Lunt; garage, Christchurch-road, for Mr. E. Barratt; factory, Roe-road, for Mr. W. W. King; drainage, 21, St. Edmund's-road, for Mr. C. F. Poole; drainage, 62–64, St. Andrew's-street, for Messrs. P. Phipps & Co., Ltd.; alterations, 58, Abington-grove, for Mr. E. Ashplant; workshop, rear of Milton-street and Kettering-road, for Messrs. Mundin Bros.; extension, East Park-parade, for Mr. T. Collier; motor garage, Clarence-avenue, for Mr. C. Pickering; store, Hester-street, for Mr. C. Shapland; kitchen, &c., 7, Hazelwood-road, for Mr. S. Cooper; factory, corner of Mounts and Earl-street, for the British United Shoe Machinery Co., Ltd.; conversion of stables to garages, Colwyn-road, for Mr. G. S. Whiting; alterations to shop, 314, Kettering-road, for Mr. W. Q. Adams; transformer sub station, Bridge street, for Messrs. P. Phipps & Co., Ltd.

PENCOED.—Major T. J. Moss Flower, consulting engineer, of Westminster and Bristol, has been instructed to prepare a joint scheme of sewerage and sewage disposal which would enable several districts to link up with the Pencoed system, and allow of the joint sewage being all treated at one spot. Two of these areas have definitely decided to combine and a main trunk sewer and joint sewage disposal works are to be constructed.

PRESTON.—Plans passed by T.C.: Mr. R. Ainsworth, alteration, Salisbury-street; British Petroleum Co., Ltd., filling sheds, offices and tanks, Carrol-street; Mr. H. Littler, for the Lancashire County Council, offices, 16, Ribbledale-place; Messrs. J. R. & W. Mangan, for Mr. J. W. Liver, alterations, &c., Longlane; Mr. F. Mallott, for Messrs. Burrows, Ltd., extension to Wharton Mill, Emerson-road; Mr. D. Wignall, two houses, Marsh-lane; Mr. H. Heaton, for Mr. J. Miles, alterations, 46, Water-lane; Mr. F. H. Shepperd, extension of tripe dressing works, Moor Brook-Street; Mr. J. S. Dale, for Messrs. Foley Bros., garage, Tithebarn-street; Messrs. J. H. & W. C. Mangan, for the Swift Beef Co., Ltd., glazed roof over yard, 65, Fishergate; Mr. H. Littler, for the Lancashire County Council, alterations and additions, 16, Ribbledale-place; Mr. J. J. Pearson, for Messrs. Sergeant & Wareing, two houses, Selborne-street; Mr. R. Potts, additions, 5, Ormskirk-road; Messrs. Longworth & Gardner, for E. H. Booth & Co., Ltd., warehouse, Glover-street; Messrs. J. H. & W. Mangan, for Mr. H. Sharples, garage, 16, Bushell-place; Mr. J. J. Pearson, for Mr. P. Abbott, house, Selborne-street; Mr. W. G. Crossthwaite, for Messrs. Attwater, additions, South Meadow-street; Messrs. Andrew & Dickson, for Mr. J. T. Beesley, bungalow, off Southern-parade; Mr. J. Nightingale, additions, 35, Muncaster-road; Mr. J. Dexter, garage, 47, Brackenbury-road; Mr. S. P. Afikman, kitchen, 32, Illingworth-road; Mr. F. Howorth, for Mr. Thos. Sumner, warehouse and stable, Tenterfield-street; Mr. A. J. T. Ellison, for Mr. H. Easterfield, stable, &c., Radnor-street; Mr. A. J. T. Ellison, for Messrs. Upcom, shop front, 13, Fishergate; Mr. A. J. T. Ellison, for Mr. J. Hunt, shop front, 51, Fishergate; Mr. F. Howorth, shop and garage, Plungington-road; Mr. Thomas White, laundry, off Castleton-road.

SAFFRON WALDEN.—Plans of steel and iron constructed buildings to be erected at Messrs. Crawley & Sons' works in Debden road, and the plans of four coal sheds to be put up by Mr. J. W. Green in Upper square, for the trustees of the Amalgamated Charities, have been approved.

SCARBOROUGH.—Plans have been approved for the erection of a piano factory in Seamer road, by Messrs. Waddington.

SOUTHWARK.—Drainage plans passed by B.C.: County of London Electric Supply Co., Ltd., to sub-station, Vine-yard; Society of Sheet Metal Workers, Braziers and Gas Meter Makers, to 236-237, Blackfriars-road; Mr. W. Francis, to 184, Gt. Dover-street; London, Chatham and Dover Railway, to 164a, Southwark Bridge-road; Mr. G. Smith, to 40, East-street.

SPALDING.—The Board of Guardians have decided to apply for a loan of £2,500 for laundry alterations at the Workhouse.

TOTTENHAM.—The Middlesex E.C. has decided to purchase a site in Park-lane for a secondary school.

WALTHAMSTOW.—Plans passed by T.C.: Storeroom, 224, Hoe-street, for Mr. C. W. Hodgson; lavatories, Blackhorse-lane, for Mr. G. M. Page; house, Grosvenor-Park-road, for Mr. L. G. Barton; addition, Wood-street, for Mr. F. J. Coxhead; two houses, Marlboro' road, for Messrs. J. Hamilton & Son; additions, Lyne Cottage, Castle-avenue, for Messrs. Chilcott & Austen, Ltd.; lock-up shop, 2a, Jewel-road, for Mr. T. Edwards; workshop, 135, Chingford-road, for Mr. J. Rawlandson; factory, St. Andrew's-road, for Messrs. C. Chancellor & Co., Ltd.; shed, 145, Coppermill-lane, for Mr. A. R. Symes.

WILLESDEN.—Plans passed by U.D.C.: Engineering shop, Cricklewood-broadway, by Mr. J. Catton, for The Broadway Properties, Ltd; soil sewers and surface water drains, Village-way and North-way, Kingsbury Garden Village, Neasden, by Mr. A. Clarke, for the Metropolitan Railway Country Estates, Ltd.; factory extension, Acton-lane, by Mr. W. J. S. Lawton, for the Crypto Electrical Co., Ltd.; lavatories, &c., Cricklewood-broadway, by Mr. J. Catton, for the Broadway Properties, Ltd.; alterations to factory, Rucklidge-avenue, for Messrs. Norton & Gregory, Ltd.; store room to factory, Rucklidge-avenue, for Messrs. Norton & Gregory, Ltd.; sanitary improvements, 41, Craven-park, by Mr. Moscrop Young, for Messrs. Walsh, Pearson & Co.; garage, Cricklewood-broadway, by Mr. J. Catton, for the Broadway Properties, Ltd.; film store to cinema scenery factory, 45, Craven-park, by Mr. Moscrop Young, for Messrs. Welsh, Peason & Co.; office building, Twyford Abbey Works, Barret's Green-road, by G. A. Sexton, for Messrs. Cox, Cavendish Electrical Co., Ltd.; shed, 83, Buckingham-road, by Mr. H. Shaw, for Messrs. W. Robinson & Son; extension to lavatory block, Central Works, Cricklewood-broadway, for Messrs. S. Smith & Sons, Ltd.; time office, Acton-lane, by Mr. W. J. S. Lawton, for the Crypto Electrical Co., Ltd.; lavatory block to factory, 473, High-road, Willesden, for Messrs. Park, Ward & Co., Ltd.; addition to shop, 1, Bank Buildings, High-street, Harlesden, by Messrs. T. Jay Evans, for Miss Emily Scott.

WREXHAM.—The T.C. have accepted the tender of a Crewe builder to erect 116 houses for £105,000.

FIRES.

CARLISLE.—A branch factory of Messrs. Carr & Co., biscuit manufacturers, has been destroyed by fire.

GREENOCK.—Damage estimated at over £1,500 has been caused by fire in the Glenburn Engineering Works, Ingleston-street, occupied by Messrs. J. R. Houston & Kerr.

The Building Guild.

At a meeting last week the building trade operatives at Stockport decided to form a building guild for Stockport and district. A committee, consisting of one representative from each trade union, has been formed, and this will be affiliated with the Manchester Building Guild. The Committee proposes to enter into negotiations for the erection of 400 houses for the Romilly Urban District Council.

COMPETITIONS, CONTRACTS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number. Contracts iv; Competitions iv; Public Appointments lvi; Sales by Auction lxiii. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where, quantities, forms of tender, &c., may be obtained.

BUILDING AND PAINTING.

MARCH 6.—**Cheltenham.**—HOUSES.—Erection of 250 houses on St. Mark's estate, for the T.C. Messrs. Chatters, Smithson & Rainger, architects, Cheltenham. Deposit, £2 2s.

MARCH 6.—**Chepstow.**—COTTAGES.—Erection of 107 cottages for the R.D.C. Mr. F. Evans, clerk, Chepstow. Deposit £10 10s.

MARCH 6.—**Hertford.**—SHED.—Erection of shed at Corporation Depot for the T.C. Borough surveyor, The Castle, Hertford.

MARCH 6.—**Poplar.**—FLATS.—Erection of nine flats in St. Leonard's-road, Bromley-by-Bow, for the B.C. Mr. H. Heckford, borough surveyor, Council Offices, Poplar. Deposit £3 3s.

MARCH 6.—**St. Dogmaels.**—HOUSES.—Erection of four houses at Kelgerran, for the R.D.C. Mr. J. T. J. Williams, architect, Cardigan. Deposit £1 1s.

MARCH 8.—**Annfield Plain.**—VARIOUS WORKS.—Erection of garage, warehouse, &c., for the Annfield Plain Industrial Co-operative Society, Ltd. Mr. G. T. Wilson, Architect, 21, Durham-road, Blackhill.

MARCH 8.—**Birkenhead.**—PAINTING.—Painting covered wholesale market for the T.C. Mr. C. Brownridge, Borough Surveyor, Birkenhead.

MARCH 8.—**Chelsea.**—PUBLIC HALL.—Erection of public hall for the War Memorial Committee. Mr. R. G. Hearness, architect, 41, St. Mary's-street, Wallingford.

MARCH 8.—**Coulsdon.**—COTTAGES, &c.—Erection of 64 cottages, roads, sewers, &c., at Kenley, for the U.D.C. Mr. C. F. Short, architect, Council Office, Purley. Deposit £2 2s.

MARCH 8.—**Ebbw Vale.**—CONVERSION.—Converting White House Cinema into fire station and offices for the U.D.C. Surveyor, Council Offices, Ebbw Vale. Deposit £1 1s.

MARCH 8.—**Eaton Bray.**—HOUSES.—Erection of 10 houses for the R.D.C. Mr. W. S. Potter, Clerk, 12 Market-square, Leighton Buzzard. Deposit, £2 2s.

*MARCH 8.—**Gloucester.**—Alterations and additions to the General Hospital, Strond, Glos.

MARCH 8.—**Hipperholme.**—HOUSES.—Twenty-four houses and construction of roads and sewers, for the U.D.C. Mr. W. W. Longbottom, architect, 25, Commercial-street, Halifax. Deposit £2 2s.

MARCH 8.—**Lewisham.**—Erection and completion of 10 "B" houses and 3 "B4" houses, 13 in all. Drawings, forms of tender, &c., from Borough Surveyor, Town Hall, Catford.

MARCH 8.—**Manea.**—SHOP, &c.—Erection of shop and stables at Manea, for the Peterborough Industrial Co-operative Society. Offices, Park-road, Peterborough.

MARCH 8.—**Mitcham.**—REPAIRS.—Repairs at Store Department, Lower Green, for the U.D.C. Surveyor's Office, Broadway House, Lower Mitcham.

MARCH 8.—**Nottingham.**—EXTENSIONS.—For extensions of the Physical Laboratory at the University College, for the City Council. City Architect, Guildhall, Nottingham. Deposit £1.

MARCH 8.—**Port Glasgow.**—HOUSES.—Eighteen dwellings, for the T.C. Messrs. Duncan & Copland, architects, 146, West Regent-street, Glasgow. Deposit 10s. 6d.

MARCH 9.—**Ramsbottom.**—HOUSES.—Erection of fifty houses on Bolton-road North site for the U.D.C. Mr. T. H. Bell, surveyor, Ramsbottom.

MARCH 8.—**Rochford.**—REPAIRS, &c.—Repairs, painting, &c., at the Poor Law Institution, for the Board of Guardians. Mr. P. Brockbank, architect, County Chambers, Southend-on-Sea.

MARCH 9.—**Aberchirder.**—COTTAGES.—Erection of three blocks of cottages for the T.C.—Messrs. G. Sutherland and C. George, architects, Aberdeen.

MARCH 9.—**Arbroath.**—HOUSES.—Four blocks of houses for the T.C. Mr. J. H. Peacock, architect, 28, Commerce-street, Arbroath. Deposit £1.

MARCH 9.—**Ardrossan.**—HOUSES.—Erection of twelve houses for the T.C. Joint Town Clerks, Burgh Chambers, Ardrossan. Deposit £1 1s.

MARCH 9.—**Banff.**—COTTAGES.—Erection of three blocks of cottages for the T.C. Messrs. G. Sutherland and C. George, architects, Aberdeen.

MARCH 9.—**Chatham.**—PAINTING.—Painting and whitewashing work at cottage homes, receiving house, school building, &c., for the Medway Guardians. Mr. P. G. Lacy, clerk, Medway Workhouse, Chatham.

MARCH 9.—**Doune.**—HOUSES.—Eight semi-detached houses, for the T.C. Messrs. Stewart & Paterson, architects, 16, Blythswood-square, Glasgow.

*MARCH 9.—**Enfield.**—Four sanitary conveniences in certain recreation grounds for the U.D.C.

MARCH 9.—**Giffnock.**—TELEPHONE EXCHANGE.—Erection of telephone exchange, Giffnock, for H.M. Office of Works. Principal architect, H.M. Office of Works, 3, Parliament-square, Edinburgh. Deposit £1 1s.

MARCH 9.—**Hemsworth.**—HOUSES.—Erection of 136 houses and 2 houses and shops at South Elmsall for the R.D.C. Mr. E. R. Winder, Clerk, Council Offices, Hemsworth. Deposit, £1 1s.

MARCH 9.—**Huddersfield.**—MILL.—Erection of woollen mill, &c., Queen's Mill-road. Mr. A. Shaw, architect, Golcar.

MARCH 9.—**Lambeth, S.E.**—Painting and cleaning offices and Nurses' Home, Brook-street, Kennington, for the Guardians of the Poor.

MARCH 9.—**Macduff.**—HOUSES.—Erection of four blocks of houses for the T.C. Messrs. G. Sutherland & C. George, architects, Aberdeen.

MARCH 9.—**Monmouthshire.**—HOUSES.—(1) Four houses and buildings; (2) two houses and farm buildings; (3) three houses and buildings; (4) two cottages and outbuildings; (5) two houses and buildings, near Chepstow, for the C.C. Mr. A. E. Clayton, County Land Agent, Newport, Mon.

MARCH 9.—**Sanford.**—HOUSES.—Twenty-four houses at Brantham, for the R.D.C. Mr. R. J. Girling, architect, Felix Chambers, Felixstowe. Deposit £1 1s.

MARCH 9.—**Twickenham.**—HOUSES.—The date for tender for the erection of houses for the U.D.C. has been extended. Mr. H. J. Saunders, Clerk, Town Hall, Twickenham.

MARCH 9.—**Worthing.**—The Corporation invite tenders for the erection in brick and concrete blocks of 31 pairs of semi-detached houses of three different types on the South Farm-road site.

MARCH 10.—**Blackburn.**—HOUSES.—Erection of 52 cottages for the T.C. on Green-lane site. Mr. A. T. Gooseman, Borough Engineer, Blackburn. Deposit, £3.

MARCH 10.—**Doncaster.**—HOUSES.—For 18 houses on the Wadsworth-road site for the T.C. Mr. R. E. Ford, Housing Surveyor, 3, Priory-place, Doncaster. Deposit £2 2s.

MARCH 10.—**Dumbarton.**—HOUSES.—Various trades for the housing scheme of the T.C. Mr. W. A. Macartney, burgh engineer, Dumbarton. Deposit £1 1s.

MARCH 10.—**Edinburgh.**—EXTENSIONS.—Extension at the Tramway Depot, Shrubhill, for the T.C. Mr. J. A. Williamson, city architect, Public Works Office, Edinburgh.

MARCH 10.—**Hackney.**—CONVERSIONS.—Converting of Army huts into bungalows for the B.C. Borough Engineers' Office, Town Hall, Hackney, E.

MARCH 10.—**Hackney.**—ELECTRICITY SUB-STATION.—Extension and completion of sub-station at Northwold-road for the B.C.—Borough Electrical Engineer, 306, Mare-street, Hackney, E.

MARCH 10.—**Hambledon.**—The Hambledon R.D.C. invite tenders for the erection and completion of 12 houses at Bramley, 12 at Chiddingfold, 7 at Ewhurst, 12 at Witley and 2 at Wonersh.

*MARCH 10.—**Rodbaston.**—ADDITIONS, &c.—Alterations, additions and improvements to the Staffordshire Farm Institute, Rodbaston, for the Staffordshire C.C. Mr. G. Balfour, County Education Offices, Stafford. Deposit 10s. 6d.

MARCH 10.—**Romford.**—The Romford R.D.C. invite tenders for the erection of 40 houses; 20 at Harold Wood and 20 on Upminster Common.

MARCH 10.—**Tarvin.**—COTTAGES.—Erection of four pairs of semi-detached cottages at Clotton, for the Tarvin R.D.C. Mr. W. Beswick, architect, Newgate-street, Chester. Deposit £2.

MARCH 10.—**Wandsworth.**—HUT.—Schemes and tenders for provision and erection of temporary wooden hut at St. James' Infirmary, for the Board of Guardians. Mr. F. J. Curtis, clerk, Union Offices, St. John's Hill, Wandsworth, S.W.

MARCH 11.—**Aspatria.**—EXTENSIONS.—Extensions to the Wesleyan Methodist Church. Mr. H. Oldfield, architect, Workington.

MARCH 11.—**Beckenham.**—HOUSES.—Erection of 196 houses on Elmers End site for the U.D.C. Mr. J. A. Angell, surveyor, Council Offices, Beckenham. Deposit £2.

MARCH 11.—**Cheltenham.**—HOUSES, &c.—Erection of 12 houses at Prestbury, two houses at Ullenwood, and construction of road and sewering, for the R.D.C. Mr. G. H. Phillott, architect, 31, The Promenade, Cheltenham. Deposit £1 1s.

MARCH 11.—**Hawarden.**—HOUSES.—Sixty-two houses at Abermorddu, for the R.D.C. Mr. F. Barrett, surveyor, Hawarden. Deposit £2 2s.

MARCH 11.—**Ystrad Mynach.**—INSTITUTE.—Institute and library for the Committee of the Penallta Workmen's Institute. Mr. H. Gabe Jones, architect, Bank Chambers, Hengoed. Deposit £2 2s.

MARCH 12.—**Axbridge.**—HOUSES.—Six cottages at Wedmore for the R.D.C. Mr. T. B. Bell, architect, 76, High-street, Weston-super-Mare.

MARCH 12.—**Wimborne and Cranborne.**—Three pairs of cottages. Particulars from architects, Messrs. Fletcher & Brett, Wimborne.

*MARCH 13.—**Blything.**—HOUSES.—Eight cottages at Blythburgh and Westleton, for the R.D.C. Mr. G. T. Mullins, architect, 14, Bedford Row, London. Deposit £1 1s.

MARCH 13.—**Briton Ferry.**—HOUSES.—Twenty-six houses for the U.D.C. Mr. H. A. Clarke, architect, Council Offices, Briton Ferry. Deposit £2 2s.

MARCH 13.—**Clydebank.**—HOUSES.—Erection of 150 houses at East Kilbowie, for the T.C. Burgh surveyor, Municipal Buildings, Clydebank.

MARCH 13.—**Derby.**—HOUSES, &c.—Erection of two houses and drainage works at the Institution of the Board of Guardians. Clerk to the Guardians, Poor Law Offices, Derby.

MARCH 13.—**Truro.**—GARAGE.—Motor garage at Messrs. Hoskes, Trevithick, Polkinhorn & Co.'s premises. Mr. A. J. Cornelius, architect, Truro.

MARCH 15.—**Altrincham.**—HOUSE.—House at sewage farm, for the U.D.C. Surveyor, Town Hall, Altrincham.

MARCH 15.—**Billericay.**—The Billericay R.D.C. invite tenders for the erection and completion of 16 cottages (in pairs) in the parish of Gt. Burstead.

MARCH 15.—**Leeds.**—REPAIRS.—Repairs to buildings and furniture for one year, for the H.C. Architect's Section, Education Offices, Leeds.

MARCH 15.—**Leith.**—HOUSES.—324 houses for the T.C. Mr. G. Simpson, architect, Council Offices, Leith. Deposit £1.

MARCH 15.—**Newquay.**—HOUSES.—Three blocks of houses for the U.D.C. Mr. J. Rance, surveyor, Newquay.

MARCH 15.—**Nottingham.**—PAINTING.—Painting at offices of City treasurer, for the T.C. City Architect, Guildhall, Nottingham. Deposit £1.

MARCH 15.—**Ramsey.**—Cottage, &c.—(a) Erection of cottage at South House Farm, Ramsey, and (b) alterations and additions to farm buildings, for the Essex C.C. Mr. J. Stuart, County architect, Chelmsford. Deposit £1 1s.

*MARCH 15.—**Tendring.**—Twelve houses for the R.D.C.

MARCH 16.—**Dunmow.**—The Dunmow R.D.C. invite tenders for the erection of 22 houses of four different types at Felstead (2 sites). Stebbing and High Easter.

MARCH 16.—**Farnworth.**—HOUSES.—Erection of twenty-eight houses for the U.D.C. Mr. W. J. Lomax, architect, 11, Fold-street, Bolton. Deposit £2.

MARCH 16.—**Guildford.**—HOUSES.—Erection of 10 houses for the R.D.C. Mr. S. Gambier Parry, architect, 28, Victoria-street, S.W. Deposit £3 3s.

*MARCH 16.—**Melbourn.**—HOUSES.—Thirty-four houses for the R.D.C. Messrs. Kennard & Kennard, architects, 12, Grays' Inn-square, W.C. 1.

MARCH 16.—**Romford.**—HOUSES.—196 houses at Rainham, Wennington, South Hornchurch and Hornchurch, for the R.D.C. Mr. L. A. Culliford, architect, 33, Furnival-street, Holborn, E.C. Deposit £2 2s.

MARCH 16.—**St. Pancras.**—ALTERATIONS.—Alterations at the Infirmary of the Board of Guardians. Mr. J. E. P. Hall, clerk, Town Hall, St. Pancras-road, N.W. Deposit £5.

*MARCH 16.—**Willesden.**—Construction and erection of 84 dressing boxes together with sanitary accommodation at the open air swimming bath, King Edward VII Recreation Ground, Kensal Rise, N.W. 10, for the Willesden D.C.

MARCH 17.—**Braintree.**—HOUSES.—Erection of 30 houses at Bocking No. 1 site, and four houses on No. 2 site, for the R.D.C. Mr. T. Alwyn Lloyd architect, 3, Lincoln's Inn Fields, W.C. Deposit £2 2s

MARCH 17.—**Devonshire.**—WALLS, &c.—Construction of retaining walls and fencing at Longford Bridge; (2) under footbridge at Henyeoh, for the Devon C.C. Mr. W. P. Robinson, County surveyor, 17, Bedford Circus, Exeter.

MARCH 17.—**Godalming.**—The Metropolitan Asylums Board invite tenders for the erection of a Sanatorium at Highdown, near Godalming, Surrey.

*MARCH 17.—**London, E.**—CLEANING, REPAIRS, &c.—Internal cleaning, painting and repairs, resurfacing road wi' tar macadam, for the Metropolitan Asylums Board.

MARCH 17.—**Sevenoaks.**—16 houses, also making a new road at Westerham for the R.D.C.

MARCH 17.—**Various Places.**—Cleaning and painting work at St. Pancras, Poplar, and various stations for the Midland Railway Co. (Eight contracts.) Engineer's Office, Derby.

MARCH 18.—**Clare.**—HOUSES.—Erection of forty houses for the R.D.C. Mr. H. Brown Thake, 10, High-street, Haverhill, Suffolk. Deposit £2 2s.

*MARCH 18.—**Heston and Isleworth.**—Forty houses on the Warren Estate, Hounslow, for the U.D.C.

MARCH 18.—**St. Pancras.**—Alterations at the Infirmary, Dartmouth Park Hill, N., for the Guardians of the Poor.

MARCH 19.—**Warwick.**—HOUSES.—Erection of houses in parishes of Cubbington, Radford, Shrewley and Tachbrook, for the R.D.C. Mr. Hugh Trepess, architect, 1, Church-street, Warwick. Deposit £1 1s.

*MARCH 20.—**Newmarket.**—HOUSES.—Erection of 20 houses at King Edward-road, Newmarket, for the U.D.C. Mr. L. E. Cole, Architect, Rutland-chambers, Newmarket.

MARCH 20.—**Maldon.**—HOUSES.—Twenty houses for the T.C. Mr. T. R. Swales, Borough Engineer, Municipal Offices, Maldon.

MARCH 20.—**Stevenage.**—HOUSES.—Twenty cottages for the U.D.C. Clerk of Council, Council Offices, Stevenage. Deposit £2 2s.

*MARCH 22.—**Orsett.**—HOUSES.—Erection and completion of 24 houses for the R.D.C. James Beck, Averley Council Houses, Essex. Deposit £2 2s.

*MARCH 22.—**Salford.**—171 houses on land adjoining Littleton-road, Lower Kersal, Salford, for the C.B.

*MARCH 22.—**Tilbury.**—Sewerage, flood prevention and tidal outfall works, carriageways, footways, planting, &c., for the U.D.C.

MARCH 25.—**Nottingham.**—HOUSES.—Erection of eighteen houses on Wells-road site for the T.C. Mr. W. V. Betts, architect, Bank Chambers, Basford, Nottingham. Deposit £1 1s.

*MARCH 26.—**Wilmslow.**—HOUSES.—Erection of 38 houses for the U.D.C. Messrs. Halliday Paterson & Agate.

*MARCH 30.—**Guildford.**—124 houses at Guildford Park, for the Borough.

MARCH 30.—**Loughton.**—50 houses on the Habgood Estate for the U.D.C.

NO DATE.—**London.**—BUILDING AND OTHER WORKS.—The L.C.C. invites persons to apply for places on the approved lists of firms invited to tender for building, painting, drainage, heating and other works for the Education Dept. County Architect, New County Hall, S.E.

NO DATE.—**Perry Bar.**—HOUSES.—Twenty-four houses for the U.D.C. Mr. A. McKewan, architect, King's-court, Colmore-row, Birmingham. Deposit £3 3s.

FURNITURE, MATERIALS, etc.

March 6.—**Chesham.**—Materials.—Road and other materials to the U.D.C. Mr. A. J. Price, Surveyor, Council Offices, Chesham.

March 6.—**Linthwaite.**—Gullets.—240 iron trapped gulleys for the U.D.C. Mr. A. Mallinson, Surveyor, Linthwaite.

March 6.—**Linthwaite.**—Granite Sets.—6,000 tons of granite sets for the U.D.C. Mr. A. Mallinson, Surveyor, Linthwaite.

March 6.—**South Shields.**—Materials.—Supply for six months of materials. Major L. Roseveare, Borough Engineer, Municipal-buildings, South Shields.

March 6.—**Swansea.**—Water Fittings, &c.—Supply of pipes, meters, &c., to the Waterworks Department of the Corporation. Water engineer, Guildhall, Swansea.

March 6.—**Wensley.**—Materials.—Highway materials for the U.D.C. Mr. J. Howard, Surveyor, Town Hall, Walkden.

March 8.—**Aberdare.**—Materials.—The U.D.C. invite tenders for the supply of stores to the electricity and tramway departments. Specifications of Mr. A. J. Abraham, General Manager, Aberdare, Glam.

March 8.—**Camberwell.**—Wood Blocks, &c.—Supply of 1,700,000 creosoted deal wood paving blocks and 2,000 tons of granite setts. Mr. F. J. Slater, borough engineer, Camberwell.

March 8.—**Derby.**—Materials.—For materials required in the public services for the T.C. Borough Surveyor, Town Hall, Derby.

March 8.—**Leek.**—Materials.—Highway materials for the U.D.C. Mr. W. B. Beacham, Surveyor, Town Hall, Leek.

March 8.—**Middleton.**—Materials.—One year's supply of highway materials for the T.C. Borough Surveyor, Town Hall, Middleton.

March 8.—**Midlothian.**—Tar, &c.—Tar, pitch and pitch oil, for the C.C. Mr. A. G. Asher, County Buildings, Edinburgh.

March 8.—**Morley.**—Materials.—Supply of materials to the T.C. Mr. F. Turner, borough engineer, Town Hall, Morley.

March 8.—**Pocklington.**—Stone.—Supply of stone and slag to the R.D.C. for one year. Mr. A. J. Oliver, clerk, 17, Market-street, Pocklington.

March 8.—**Tunbridge Wells.**—Granite.—Road material for the T.C. Mr. W. H. Maxwell, borough engineer, Town Hall, Tunbridge Wells.

March 9.—**Birmingham.**—Materials.—Six months' supply of materials to the Gas Dept. Mr. A. W. Smith, General Manager, Council House, Birmingham. Deposit 5s.

March 9.—**South Mimms.**—Road Materials.—Supply of road materials to the R.D.C. Mr. G. Simcox, surveyor, "Bearwood," Great North-road, Potter's Bar.

March 10.—**Belfast.**—Materials.—Materials for the Electricity Department of the Corporation. Mr. T. W. Bloxam, City Electrical Engineer, East Bridge-street, Belfast. Deposit 10s.

March 10.—**Bridlington.**—Materials.—Six months' supply of stores and materials to the T.C. Borough Engineer, 1, The Crescent, Bridlington.

March 10.—**Bury St. Edmunds.**—Road Material.—For supply of road material to West Suffolk C.C. Mr. W. L. Jenkins, County Surveyor, Shire Hall, Bury St. Edmunds.

March 10.—**East Ham.**—Materials.—Year's supply of materials required in public services. Mr. C. Eustace Wilson, Town Clerk, Town Hall, East Ham.

March 10.—**Hackney.**—Materials.—Supply of materials &c., to the B.C. Borough Engineer, Town Hall, Hackney. Deposit 10s.

March 10.—**Heston and Isleworth.**—Materials.—Supply of granite and tar to the U.D.C. Mr. J. C. Carey, surveyor, Council House, Hounslow, W.

March 10.—**Littlehampton.**—Tar, &c.—Distilled tar and compo grit to the U.D.C. Mr. W. A. Clegg, surveyor, Town Hall, Littlehampton.

March 10.—**London.**—Road Materials.—Supply for one year of road materials to the Commissioners of H.M. Works. Director of Contracts, H.M. Office of Works, Storey's Gate, Westminster, S.W.

March 10.—**Oldham.**—Materials.—Supply of materials to the Surveyor's Committee of the T.C. Borough Surveyor, Town Hall, Oldham.

March 10.—**Rothwell.**—Materials.—For materials for various departments of the U.D.C. Council Offices, Rothwell, Leeds.

March 11.—**Hendon.**—Materials.—Highway materials for the R.D.C. Mr. J. A. Webb, surveyor, Council Offices, Stanmore.

March 12.—**Stafford.**—Materials.—Supply of road materials and tools for the Staffordshire C.C. Mr. J. Monsur, County Surveyor, Stafford.

March 13.—**Darlington.**—Materials.—Materials for six months for various services of the T.C. Borough surveyor, Town Hall, Darlington.

March 13.—**Manchester.**—Materials.—Supply of lime and rope waste to the sewage works of the Corporation. Rivers Dept., Town Hall, Manchester.

March 13.—**Newcastle-on-Tyne.**—Materials.—Supply of paints, whinstone, pitch, tar and creosote oil to the T.C. City Engineer's Office, Town Hall, Newcastle.

March 13.—**Northampton.**—Granite.—Supply of broken granite to the Corporation for one year. Mr. Alfred Fedler, borough engineer, Northampton.

March 15.—**Salford.**—Materials.—Materials, for the T.C. Borough Engineer, Town Hall, Salford.

March 15.—**Sutton Coldfield.**—Materials.—Supply of materials for the T.C. Mr. W. A. H. Clarry, borough engineer, Sutton Coldfield.

March 15.—**Whitefield.**—Materials.—Supply of stores to the U.D.C. Mr. G. M. Denton, surveyor, Council Offices, Whitefield.

March 17.—**Chelmsford.**—Tar.—Supply of refined tar, for the T.C. Mr. G. Melvin, town clerk, Municipal Offices, Chelmsford.

March 17.—**Manchester.**—Railway Stores.—Year's stores of all descriptions to Great Central Railway Co. Mr. W. Williams, Stores Superintendent, Gorton, Manchester.

March 20.—**Bridgwater.**—Road Materials.—Supply of stone and tarmac for the R.D.C. Mr. W. H. Cousins, surveyor, Bridgwater.

March 20.—**Burnley.**—Materials.—Supply of materials for the Highways and Sewerage Committee. Mr. G. H. Pickles, borough engineer, Town Hall, Burnley.

March 20.—**Riccall.**—Road Material.—Supply of road material to the R.D.C. Mr. J. Townend, clerk, 1, Abbey-place, Selby.

March 23.—**Halifax.**—Materials.—Supply of materials to the Gas Department of the Corporation. Mr. W. B. MacLusky, engineer, Gas Department, Halifax.

March 24.—**Burnley.**—Materials.—Road materials pipes, &c., for the R.D.C. Mr. H. Pritchard, surveyor, 18, Nicholas-street, Burnley.

ENGINEERING, IRON AND STEEL.

March 8.—**Durham.**—Bridge.—Taking down existing Chester Town Bridge and building new bridge, for the County Council. Mr. A. E. Brookes, County surveyor, Shire Hall, Durham. Deposit £2 2s.

March 10.—**Aylesbury.**—Sewerage Tank, &c.—Construction of underground sewerage tank and engine room for the T.C. Mr. W. H. Taylor, borough surveyor, Town Hall, Aylesbury. Deposit £1 1s.

March 10.—**Dewsbury.**—Heating Installation, &c.—Heating and hot water supply scheme at institution of the Board of Guardians. Mr. E. T. Tunnicliffe, clerk, Union Offices, Wellington-street, Dewsbury Deposit £5.

March 10.—**Dundee.**—Gas Fitting, &c.—Plumbing and gas-fitting works at the City Hall for the Corporation. Mr. J. Thomson, city architect, Municipal Offices, Dundee. Deposit £1.

March 10.—**Heysham.**—Water Pipes.—Supply of about 56 tons of cast-iron water pipes, for the U.D.C. Mr. H. Miller, surveyor, Council Offices, Heysham.

March 11.—**Manchester.**—Weighing Machines.—For maintenance of weighing machines for the Corporation for one, two or three years. Supt., Gas Dept., Town Hall, Manchester.

March 12.—**London.**—Electrical Accessories.—Supply for one year of electrical accessories to Commissioners of H.M. Works. Controller of Supplies, King Charles-street, Westminster, S.W.

March 15.—**Ayeliffe.**—Bridge.—Strengthening bridge over the River Skerne, for the North Eastern Railway Co. Mr. C. F. Bengough, engineer for the Company, York.

March 17.—**Dartford.**—Fuel Economiser.—For (*a*) providing and fixing fuel economiser; and (*b*) building brickwork setting for economiser at Joyce Green Hospital, Dartford, for the Metropolitan Asylums Board. Office of the Board, Thames Embankment, E.C. Deposit £1.

March 17.—**Leeds.**—Boiler.—Supplying and fitting Lancashire boiler at Hunslet Baths, for the Corporation. Mr. W. T. Lancashire, city engineer, Municipal Buildings, Leeds.

March 20.—**Aberdare.**—Tramways.—Reconstruction of existing tramways and for new tramways for the U.D.C. Mr. E. M. Lacy, 12, Victoria-street, Westminster, S.W. Deposit £5 5s.

March 22.—**Warrington.**—Gas Plant.—Construction of vertical retort installation, with coal and coke handling plant, for the Corporation. Mr. W. Newbigging, 3, Norfolk-street, Manchester.

March 29.—**Birmingham.**—Reservoir.—Construction of covered service reservoir at Yardley Wood, for the Corporation. Mr. E. Antony Lees, Council House, Birmingham. Deposit £5.

April 1.—**Prestonpans.**—Heating.—For installation of heating apparatus in public school, for the Haddingtonshire E.C. Mr. R. D. Robinson, Education Offices, Haddington.

April 7.—**Lochgelly.**—Railway.—Construction of railway line to the housing site for the T.C. Mr. A. Lumsden, burgh surveyor, Lochgelly. Deposit £2 2s.

ROAD, SANITARY, AND WATER WORKS.

March 6.—**Dartford.**—Road, &c.—Roads and sewers in connection with housing scheme for U.D.C. Surveyor, Council Offices, Dartford. Deposit, £2 2s.

March 6.—**Kensington.**—Roads and Sewers.—Laying out roads and construction of pipe sewers on housing site for the B.C. Borough Engineer, Town Hall, Kensington. Deposit £2 2s.

March 6.—**Linthwaite.**—Paving.—Paving with granite sets, etc., about 26,120 superficial square yards of road for the U.D.C. Mr. A. Mallinson. Surveyor, Linthwaite. Deposit £1 1s.

March 6.—**Newburn.**—Roads and Sewers.—Construction of about 3¼ miles of roads and sewers on Lessington and Throckley housing sites for the U.D.C. Mr. Thomas Gregory, surveyor, Council Offices, Newburn-on-Tyne Deposit 10s 6d.

March 6.—**Rochford.**—Sanitary.—Removal of refuse and maintenance of sewage tanks at South Benfleet, for the R.D.C. Mr. W. H. Roberts, Clerk, 40, Clarence-street, Southend-on-Sea.

March 8.—**France and Belgium.**—Cemeteries.—Construction of 30 cemeteries in France and Belgium, for the Imprial War Graves Commission. Contract 20, Secretary (Works Branch), Imperial War Graves Commission, 6, George-street, Hanover-square, W.

March 8.—**Glasgow.**—Roads and Sewers.—Construction of roads and sewers in connection with (1) Greenhead, and (2) Kennyhill and Riddrie housing schemes. Director of Housing, Govan Town Hall, Glasgow.

March 9.—**Heston and Isleworth.**—Streets.—Construction of streets and sewers in connection with housing scheme of the U.D.C. Mr. J. G. Carey, surveyor, Council House, Hounslow. Deposit £2 2s.

March 9.—**Llangaini.**—Roads and Sewers.—Construction of roads and sewers for housing scheme of the U.D.C. Mr. J. Arlon Jones, architect, Llandudno. Deposit £2 2s.

March 9.—**Newbiggin-by-the-Sea.**—Sewers, &c.—Construction of sewer, &c., for the U.D.C., in connection with housing scheme. Mr. R. Appleby, surveyor, Council Offices, Newbiggin-by-the-Sea. Deposit £1 1s.

March 10.—**Heysham.**—Trench Work.—Excavating trenches and laying water main, for the U.D.C. Mr. H. Miller, surveyor, Council Offices, Heysham.

March 11.—**Llantrisant.**—Footpath.—Improvement to footpath, for the R.D.C. Mr. T. Saunders, School-street, Pontydur. Deposit £2.

March 11.—**Staines.**—Roads.—Resurfacing Southampton and Kingston roads with an asphaltic surface &c., for the U.D.C. Mr. E. J. Barrett, surveyor Town Hall, Staines. Deposit £2 2s.

March 11.—**Tamworth.**—Sanitary.—Conversion of privies, &c., into water closets for the T.C. Mr. G. W. Shelley, sanitary inspector, Municipal Offices, Tamworth.

March 11.—**Welshpool.**—Roads and Sewers.—Construction of roads and sewers on the Waterloo site for the T.C. Mr. F. H. Shayler, architect, Gateway Chambers, Shrewsbury. Deposit £1 1s.

March 12.—**Bedwas.**—Roads.—Construction of roads and sewers at (*a*) Macsycwmmer School site, and (*b*) Machen Station site. Mr. D. J. Thomas, architect, Blackwood for (*a*), and Mr. A. S. V. Taylor, Council Offices, Bedwas for (*b*).

March 13.—**Immingham.**—Sewerage.—New sewerage works for the Grimsby R.D.C. Mr. H. Hobson, surveyor, Deansgate, Grimsby. Deposit £5.

March 15.—**Altrincham.**—Sanitary.—Conversion of 186 privies for the U.D.C. Surveyor, Town Hall, Altrincham.

March 15.—**Dartford.**—Domestic hot water supply system and radiator heating of Infirmary Wards, Administrative Block and Nurses' Quarters at the Institution, West Hill, Dartford. Specifications, &c., can be seen at the office of Mr. Wingfield-Bowles, 29, Victoria-street, S.W. Deposit 3 guineas.

March 15.—**Kincardineshire.**—Roads.—Resurfacing 12 miles of roadway for the County Council. Mr. A. Forbes, County road surveyor, Stonehaven. Depost £1.

March 16.—**Farnworth.**—Roads and Sewers.—Roads and sewers at housing site, for the U.D.C. Mr. W. J. Jones, 11, Fold-street, Bolton. Deposit £3

March 18.—**Stratton and Bude.**—Water Main.—Supplying and laying 1,846 lineal yards of cast-iron water main and fittings, for the U.D.C. Surveyor Bude.

March 19.—**Chelmsford.**—Gas Mains, &c.—Laying of gas mains and the installation of services on Boarded Barns housing estate, for the T.C. Gas Engineer, Gas Works, Springfield, Chelmsford.

March 20.—**Maldon.**—Roads, &c.—Roads and sewers for housing site of the T.C. Borough Engineer, Municipal Offices, Maldon.

March 20.—**Maldon.**—Water Mains.—Providing and laying 3 in. water main in Cherry Garden-road, for the T.C. Borough Engineer, Municipal Offices, Maldon.

March 22.—**Tilbury.**—Sewerage, &c.—Sewerage, flood prevention and tidal outfall works, carriageways, &c., in connection with housing scheme, for the U.D.C. Mr. S. A. Hill-Willis, engineer, Council Offices, 47, Dockroad, Tilbury. Deposit £10 10s.

✱March 23.—**Ilford.**—Roads and Sewers.—Construction of roads and sewers at Chadwell Heath and Barkingside, for the U.D.C. Mr. Herbert Shaw, M.I.C.E., Engineer and Surveyor to the Council.

Auction Sales, Tenders, &c.

March 9.—**101 and 102, London-street, Bethnal Green, E. 1.**—Mr. Wm. F. Laing will sell screws, corrugated iron, nails, and portable coppers, *&c.*

✱March 9.—**Plymouth.**—Sectional and non-sectional huts. Catalogues. Business Exchange, Drake Circus, Plymouth.

March 10.—**Osterley Park.**—Huts and buildings of various sizes by direction of the Disposal Board. Catalogues from the auctioneers, Messrs. Weatherall & Green, 22, Chancery-lane, W.C. 2.

✱March 10.—**Plymouth.**—Sectional and non-sectional huts. Catalogues, 27, High street, Salisbury.

✱March 12.—**Leeds.**—Messrs. Geo. N. Dixon & Co. will sell reinforced concrete plant.

March 12.—**Upper Rooms, Exchange Arcade, Lincoln.**—Messrs. T. B. Richardson & Son will sell the freehold property known as Swalkwbeck Gravel Pits.

March 16.—**Wellington, Somerset.**—Messrs. J. Hibbard & Sons will sell a stock of soft woods.

March 17.—**Plym Bridge, S. Devon.**—Messrs. J. Hibbard & Sons will sell a stock of timber.

✱March 17 and 18.—**Ashdown Forest, Sussex.**—Messrs. Langridge & Freeman will sell huts and buildings.

✱March 23.—**Aston, Shropshire.**—Messrs. Joseph Hibbard & Sons will sell stock of timber.

✱March 23 and 24.—**London, N.W.**—Tools (in lots to suit small buyers). Allsop & Co., 141, Park Road, Regent's Park, N.W. 8, auctioneers.

✱March 24 and 25.—**Sunbury.**—Messrs. Weatherall & Green will sell, by direction of the Disposal Board, Ministry of Munitions, huts, plant and materials.

✱March 23, 24 and 25.—**Eastcote, Northants.**—Messrs. Wise & Bowerman will sell by direction of the Disposal Board, Ministry of Munitions, 100 huts, building materials and R.E. stores.

✱March 24.—**Pontesbury, Shropshire.**—Messrs. J. Hibbard & Sons will sell a stock of timber.

✱March 25.—**London, N.W.**—Messrs. Dagnalls, Ltd., will sell at Dagnalls Wharf, Metropolitan Railway, Willesden Green, N.W. 2, traction machinery, *&c.*

March.—**London, E.C. 4.**—Messrs. Daun & Lucas will sell, at the Cannon-street Hotel, E.C. 4, the freehold residential and agricultural estate known as "Farningham Hill."

Competitions.

(See Competition News, page 270.)

Public Appointments.

MARCH 8.—Southampton.—Clerk of Works for the county. Salary £156, with Civil Service War Bonus award £85, making a total salary of £249 12s.

*MARCH 9.—Uxbridge.—Clerk of Works for the U.D.C. Salary £7 10s. per annum.

*MARCH 10.—Gravesend.—Quantity Surveyors required for preparing Bills of Quantities for houses for the Town Council.

*MARCH 10.—Slough.—Architectural Assistant (temporary) required by the U.D.C., for their housing scheme.

*MARCH 11.—London.—Junior Architectural and Surveying Draughtsman for the Metropolitan Asylums Board. Salary at the rate of £100 per annum, rising by annual increments.

MARCH 11.—Stroud.—Architectural Assistant, for the U.D.C.

MARCH 13.—Wisbech.—Borough Surveyor, for the Borough Council. Salary, £375 per annum.

*MARCH 15.—Cumberland.—Assistant for surveying and levelling, &c., for the County Council.

*MARCH 15.—Watford.—Inspector of Buildings, Street and Sewers for the U.D.C. Salary £275 per annum.

K*MARCH 17.—Sheffield.—Temporary full-time lecturers for the University. W. M. Gibbons, Registrar, University, Sheffield.

*MARCH 17.—Southampton.—(a) Qualified Architectural Draughtsman; (b) Accountant and Junior Quantity Surveyor required by the architect to the B.C. for work in connection with small holdings.

*MARCH 18.—Exeter.—Clerk of Works for the City. Commencing salary £220 per annum.

*MARCH 20.—Bradford.—Architectural Assistant, also Clerk of Works, required by the City Council. W. Williamson, City Architect, Town Hall, Bradford.

*MARCH 22.—Barrow-in-Furness.—Temporary Architectural Assistant for the County Borough. Salary £5 per week, including War Bonus.

*NO DATE.—Cheshunt.—Quantity Surveyors required by the U.D.C. for taking out quantities in connection with their housing scheme.

NOTES FROM THE FOREIGN PRESS.

RADIAL BRICK CHIMNEY 300 FT. HIGH.

THIS chimney, built for the British-American Nickel Corporation to be used in connection with smelting operations, needed unusual care in design and construction. Gases discharged contain from 3 to 4 per cent. of sulphurous acid, which on condensing collects on the top and sides of the structure. The chimney, of perforated radial brick type, is 300 ft. in height, of 25 ft. inside diameter at the top, and 27 ft. 6½ ins. at the bottom. The lower 50 ft., or pedestal, is of common shale brick laid on acid-proof mortar, and has walls of from 36 in. to 28 in. thick. The upper 250 ft. is built of perforated radial bricks, and is of annular section, varying in thickness from 26 in. to 13½ in. There is a perforated radial brick lining throughout, separated by a 2 in. space from the outer walls. Two flue openings 22 ft. 6 in. high, by 10 ft. wide, are provided, each at right angles to the other, the openings being reinforced by stout pilasters to make good the loss of section. The usual practice in chimney construction is to use mortar of one part cement, two parts lime, and five parts sand, but, having regard to the nature of the flue gases, fireclay was substituted for the lime. At each 20 ft. of height there are 3 in. by ¼ in. steel strap bands to resist circumferential stress. Inside and outside ladders are provided consisting of ¾ dia. U-irons at 15 in. centres. At 75 ft. and 170 ft. of height testing platforms are fixed, at which gas samples may be secured. The lining is carried upon corbels built out from the inside of the wall. These divide the lining into twelve sections, any one of which may be separately repaired without disturbing the remainder. The space left between the top of one section of lining and the corbel above is sealed by lead flashing to prevent the entry and condensation of flue gases behind the lining. The chimney top has a heavy sectional terra-cotta cap. The top of the shaft for 50 ft. down, and the lining, is painted with silicate of soda. An acid-resisting lightning rod has been fixed. (J. G. Mingle, *Canadian Engineer.*)—*Technical Review.*

LAW REPORTS.

OFFICIAL REFEREE'S COURT.
(Before MR. POLLOCK.)

Builder's Claim for Military Recreation Hut.

In this case the plaintiff, Mr. Hector Geo. Morgan, builder, of 158, St. John's-road, Holloway, sought to recover from Miss Basset Popkin, superintendent of the Auxiliary Military Hospital, Holly Park, Crouch Hill, the balance (£122 11s. 8d.), of the contract price (£369), and extras in connection with the erection of a recreation hut at the voluntary aid hospital at Durham House, Crouch Hill.

Mr. Storey Deans, for the plaintiff, said that the defendant, after paying a portion of the money due, disputed the balance on the ground of various alleged defects in the work done, and thought it had not been carried out in accordance with the contract. She complained that the materials used were not of good quality, that the joinery and ironmongery were bad, and that there were various structural defects. Generally, it appeared from the defence, that the whole of the work was done as badly as possible, and it was surprising that the defendant had paid anything. About September, 1917, plaintiff was first asked to give an estimate for the erection of the room, and upon the estimate prescribed he was asked to carry out the work, and plans were submitted and approved and were eventually passed by the L.C.C. with certain alterations. One of the things complained of by defendant, was that a wood and felt roof had been supplied instead of corrugated iron, but this the plaintiff accounted for by the fact that the Minister of Munitions declined to let him have the corrugated iron. The roof supplied really cost more than corrugated iron. There was a complaint also that the roof leaked, and as to that, plaintiff was quite willing to make an allowance for the repairs. A more serious complaint was that the building was, according to the contract, to be 20 feet wide, whereas it was only 17 feet. If the building had been 20 feet wide it would have involved the cutting down of a holly hedge in the grounds, to which the ground landlord objected. The plaintiff had done the work as nearly as possible in accordance with the plans, and it was the defendant's business to obtain the permission of the ground landlord. The work had been delayed and rendered more costly by the men having to work quite close to a holly hedge. As to the complaint about the quality of the materials, the plaintiff would say that he obtained them from the merchant who had supplied him for years past, and the workmen employed on the job were all good and experienced men, but he admitted that defects might have arisen from the patients and others continually over-running the premises while the work was in progress.

The plaintiff gave evidence bearing out counsel's statement, and said that defendant had acquiesced in the departure from the plans owing to the action of the Minister of Munitions and the ground landlord, and told him to get on with the work.

The Official Referee found that the builder had not kept to the specification, and that the value of the building had thereby been depreciated. He therefore gave judgment for the defendant, with costs.

Trade Union Dispute.

IN this case, Hodges *v.* Webb, heard in the Chancery Division before Mr. Justice Peterson, an important question arose under the Trades' Disputes Act, 1906.

The plaintiff, an electrician foreman and a member of the National Association of Supervising Electricians, brought the action for an injunction to restrain the defendant, a secretary of the Electrical Trades Union, for wrongfully interfering, or attempting to interfere, with the plaintiff's employment and his right to dispose of his labour as he willed, and that the defendant should be restrained from continuing the acts complained of. Plaintiff complained that in October last year, when he was working for Messrs. Tyler & Freeman on a job at Delectaland, Watford, the defendant called the men out on strike because he (plaintiff) was not a member of the E.T.U., and that in consequence he lost his job.

Mr. Justice Peterson, in a considered judgment, said the N.A.S.E. was registered as a trade union, but it failed to obtain recognition by the Trades Union Congress, and it was apparent that the E.T.U. considered that there was ground for believing that the N.A.S.E. was under the influence of, or sympathised with, the employers in the electrical industry, and, rightly or wrongly, objected to its own members working with members of the N.A.S.E. The E.T.U. considered that the N.A.S.E. was not a genuine trade union, and that its members were on the same footing as non-unionists. In September, 1918, complaints were brought to the notice of the Watford Branch of the E.T.U. that non-unionists were employed by Messrs. Tyler & Freeman at Delectaland. In consequence of these and other complaints the London District Executive of the E.T.U. instructed the defendant to go to Watford to clear up any grievances. Defendant also had a general power to withdraw men from work. On October 13 the defendant had an interview with the plaintiff at Delectaland. In his lordship's opinion at that interview the defendant asked the plaintiff to join the E.T.U., which the plaintiff refused to do, and the defendant then told him that he would have to call the men off the job, and that they could not return unless the plaintiff was off the job. Defendant then told the men that as the plaintiff refused to join the E.T.U. he had no option but to ask them to cease work. With regard to the plaintiff's allegation that the defendant threatened to take away his livelihood if he did not join the E.T.U., his lordship came to the conclusion that the plaintiff's memory of the words actually used was not to be trusted. He thought, however, that defendant did tell the plaintiff that if he did not join the E.T.U. the same trouble would occur on any job on which he was employed. There was no suggestion that the defendant induced any breach of contract between the employers and the workmen, nor was there any allegation of conspiracy or unlawful combination. It was impossible to hold that Messrs. Tyler & Freeman were induced to dismiss the plaintiff by any statement made by the defendant to the plaintiff, for there was no evidence that any such statements were reported to Messrs. Tyler & Freeman. No one doubted that the men could have ceased work because they objected to working with the plaintiff or were entitled to refuse to return to work under the plaintiff. It was said that the decision in the case of "Valentine *v.* Hyde" compelled him to hold that the defendant was not prohibited by Section 3 of the Trades Disputes Act, 1906. As, however, there was in his lordship's opinion a trade dispute in this case it was unnecessary for him to consider the decision in the case cited. Upon the evidence it was impossible to find any threat which was a sufficient basis for an action. Threats and coercion were not protected by section 3, but a distinction must be drawn between a threat and a warning. Workmen were entitled to cease work for any reason, good, bad, or indifferent, and employers were entitled to decline to continue certain workmen in their employment for any reason, good or bad. It would be very strange that while workmen could cease work they could not in a body, or by one of themselves, or by one of the officials of their union inform the employers of the fact that they proposed to cease work and of their reasons for doing so without risking being sued for using threats or coercion. If the defendant had called out the men without speaking to the plaintiff, the plaintiff would have had no action against him, and his lordship was not prepared to say that because the defendant said that he would do something which he had a lawful right to do there was such a threat as rendered the defendant liable in an action by the plaintiff. Judgment was entered for the defendant with costs.

FURNITURE, MATERIALS, etc.

MARCH 6.—**Chesham.**—MATERIALS.—Road and other materials to the U.D.C. Mr. A. J. Price, Surveyor, Council Offices, Chesham.

MARCH 6.—**Linthwaite.**—GULLEYS.—340 iron trapped gulleys for the U.D.C. Mr. A. Mallinson, Surveyor, Linthwaite.

MARCH 6.—**Linthwaite.**—GRANITE SETS.—6,000 tons of granite sets for the U.D.C. Mr. A. Mallinson, Surveyor, Linthwaite.

MARCH 6.—**South Shields.**—MATERIALS.—Supply for six months of materials. Major L. Roseveare, Borough Engineer, Municipal Buildings, South Shields.

MARCH 6.—**Swansea.**—WATER FITTINGS, &c.—Supply of pipes, meters, &c., to the Waterworks Department of the Corporation. Water engineer, Guildhall, Swansea.

MARCH 6.—**Worsley.**—MATERIALS.—Highway materials for the U.D.C. Mr. J. Howard, Surveyor, Town Hall, Walkden.

MARCH 8.—**Aberdare.**—MATERIALS.—The U.D.C. invite tenders for the supply of stores to the electricity and tramway departments. Specifications of Mr. A. J. Abraham, General Manager, Aberdare, Glam.

MARCH 8.—**Camberwell.**—WOOD BLOCKS, &c.—Supply of 1,700,000 creosoted deal wood paving blocks and 2,000 tons of granite setts. Mr. F. J. Slater, borough engineer, Camberwell.

MARCH 8.—**Derby.**—MATERIALS.—For materials required in the public services for the T.C. Borough Surveyor, Town Hall, Derby.

MARCH 8.—**Leek.**—MATERIALS.—Highway materials for the U.D.C. Mr. W. E. Beacham, Surveyor, Town Hall, Leek.

MARCH 8.—**Middleton.**—MATERIALS.—One year's supply of highway materials for the T.C. Borough Surveyor, Town Hall, Middleton.

MARCH 8.—**Midlothian.**—TAR, &c.—Tar, pitch and pitch oil, for the C.C. Mr. A. G. Asher, County Buildings, Edinburgh.

MARCH 8.—**Morley.**—MATERIALS.—Supply of materials to the T.C. Mr. F. Turner, borough engineer, Town Hall, Morley.

MARCH 8.—**Pocklington.**—STONE.—Supply of stone and slag to the R.D.C. for one year. Mr. A. J. Oliver, clerk, 17, Market-street, Pocklington.

MARCH 8.—**Tunbridge Wells.**—GRANITE.—Road material for the T.C. Mr. W. H. Maxwell, borough engineer, Town Hall, Tunbridge Wells.

MARCH 9.—**Birmingham.**—MATERIALS.—Six months' supply of materials to the Gas Dept. Mr. A. W. Smith, General Manager, Council House, Birmingham. Deposit 5s.

MARCH 9.—**South Mimms.**—ROAD MATERIALS.—Supply of road materials to the R.D.C. Mr. G. Simcox, surveyor, "Bearwood," Great North-road, Potter's Bar.

MARCH 10.—**Belfast.**—MATERIALS.—Materials for the Electricity Department of the Corporation. Mr. T. W. Bloxam, City Electrical Engineer, East Bridge-street, Belfast. Deposit 10s.

MARCH 10.—**Bridlington.**—MATERIALS.—Six months' supply of stores and materials to the T.C. Borough Engineer, 1, The Crescent, Bridlington.

MARCH 10.—**Bury St. Edmunds.**—ROAD MATERIAL.—For supply of road material to West Suffolk C.C. Mr. W. L. Jenkins, County Surveyor, Shire Hall, Bury St. Edmunds.

MARCH 10.—**East Ham.**—MATERIALS.—Year's supply of materials required in public services. Mr. C. Eustace Wilson, Town Clerk, Town Hall, East Ham.

MARCH 10.—**Hackney.**—MATERIALS.—Supply of materials &c., to the B.C. Borough Engineer, Town Hall, Hackney. Deposit 10s.

MARCH 10.—**Heston and Isleworth.**—MATERIALS.—Supply of granite and tar to the U.D.C. Mr. J. C. Carey, surveyor, Council House, Hounslow, W.

MARCH 10.—**Littlehampton.**—TAR, &c.—Distilled tar and compo grit to the U.D.C. Mr. W. A. Clegg, surveyor, Town Hall, Littlehampton.

MARCH 10.—**London.**—ROAD MATERIALS.—Supply for one year of road materials to the Commissioners of H.M. Works. Director of Contracts, H.M. Office of Works, Storey's Gate, Westminster, S.W.

MARCH 10.—**Oldham.**—MATERIALS.—Supply of materials to the Surveyor's Committee of the T.C. Borough Surveyor, Town Hall, Oldham.

MARCH 10.—**Rothwell.**—MATERIALS.—For materials for various departments of the U.D.C. Council Offices, Rothwell, Leeds.

MARCH 11.—**Hendon.**—MATERIALS.—Highway materials for the R.D.C. Mr. J. A. Webb, surveyor, Council Offices, Stanmore.

MARCH 12.—**Stafford.**—MATERIALS.—Supply of road materials and tools for the Staffordshire C.C. Mr. J. Moncur, County Surveyor, Stafford.

MARCH 13.—**Darlington.**—MATERIALS.—Materials for six months for various services of the T.C. Borough surveyor, Town Hall, Darlington.

MARCH 13.—**Manchester.**—MATERIALS.—Supply of lime and rope waste to the sewage works of the Corporation. Rivers Dept., Town Hall, Manchester.

MARCH 13.—**Newcastle-on-Tyne.**—MATERIALS.—Supply of paints, whinstone, pitch, tar and creosote oil to the T.C. City Engineer's Office, Town Hall, Newcastle.

MARCH 13.—**Northampton.**—GRANITE.—Supply of broken granite to the Corporation for one year. Mr. Alfred Fedler, borough engineer, Northampton.

MARCH 15.—**Salford.**—MATERIALS.—Materials, for the T.C. Borough Engineer, Town Hall, Salford.

MARCH 15.—**Sutton Coldfield.**—MATERIALS.—Supply of materials for the T.C. Mr. W. A. H. Clarry, borough engineer, Sutton Coldfield.

MARCH 15.—**Whitefield.**—MATERIALS.—Supply of stores to the U.D.C. Mr. G. M. Denton, surveyor, Council Offices, Whitefield.

MARCH 17.—**Chelmsford.**—TAR.—Supply of refined tar, for the T.C. Mr. G. Melvin, town clerk, Municipal Offices, Chelmsford.

MARCH 17.—**Manchester.**—RAILWAY STORES.—Year's stores of all descriptions to Great Central Railway Co. Mr. W. Williams, Stores Superintendent, Gorton, Manchester.

MARCH 20.—**Bridgwater.**—ROAD MATERIALS.—Supply of stone and tarmac for the R.D.C. Mr. W. H. Cousins, surveyor, Bridgwater.

MARCH 20.—**Burnley.**—MATERIALS.—Supply of materials for the Highways and Sewerage Committee. Mr. G. H. Pickles, borough engineer, Town Hall, Burnley.

MARCH 20.—**Riccall.**—ROAD MATERIAL.—Supply of road material to the R.D.C. Mr. J. Townend, clerk, 1, Abbey-place, Selby.

MARCH 23.—**Halifax.**—MATERIALS.—Supply of materials to the Gas Department of the Corporation. Mr. W. B. MacLusky, engineer, Gas Department, Halifax.

MARCH 24.—**Burnley.**—MATERIALS.—Road materials pipes, &c., for the R.D.C. Mr. H. Pritchard, surveyor, 18, Nicholas-street, Burnley.

ENGINEERING, IRON AND STEEL.

MARCH 8.—**Durham.**—BRIDGE.—Taking down existing Chester Town Bridge and building new bridge, for the County Council. Mr. A. E. Brookes, County surveyor, Shire Hall, Durham. Deposit £2 2s.

MARCH 10.—**Aylesbury.**—SEWERAGE TANK, &c.—Construction of underground sewerage tank and engine room for the T.C. Mr. W. H. Taylor, borough surveyor, Town Hall, Aylesbury. Deposit £1 1s.

MARCH 10.—**Dewsbury.**—HEATING INSTALLATION, &c.—Heating and hot water supply scheme at institution of the Board of Guardians. Mr. E. T. Tunnicliffe, clerk, Union Offices, Wellington-street, Dewsbury Deposit £5.

MARCH 10.—**Dundee.**—GAS FITTING, &c.—Plumbing and gas-fitting works at the City Hall for the Corporation. Mr. J. Thomson, city architect, Municipal Offices, Dundee. Deposit £1.

MARCH 10.—**Heysham.**—WATER PIPES.—Supply of about 56 tons of cast-iron water pipes, for the U.D.C. Mr. H. Miller, surveyor, Council Offices, Heysham.

MARCH 11.—**Manchester.**—WEIGHING MACHINES.—For maintenance of weighing machines for the Corporation for one, two or three years. Supt., Gas Dept., Town Hall, Manchester.

MARCH 12.—**London.**—ELECTRICAL ACCESSORIES.—Supply for one year of electrical accessories to Commissioners of H.M. Works. Controller of Supplies, King Charles-street, Westminster, S.W.

MARCH 15.—**Ayeliffe.**—BRIDGE.—Strengthening bridge over the River Skerne, for the North Eastern Railway Co. Mr. C. F. Bengough, engineer for the Company, York.

MARCH 17.—**Dartford.**—FUEL ECONOMISER.—For (*a*) providing and fixing fuel economiser; and (*b*) building brickwork setting for economiser at Joyce Green Hospital, Dartford, for the Metropolitan Asylums Board. Office of the Board, Thames Embankment, E.C. Deposit £1.

MARCH 17.—**Leeds.**—BOILER.—Supplying and fitting Lancashire boiler at Hunslet Baths, for the Corporation. Mr. W. T. Lancashire, city engineer, Municipal Buildings, Leeds.

MARCH 20.—**Aberdare.**—TRAMWAYS.—Reconstruction of existing tramways and for new tramways for the U.D.C. Mr. E. M. Lacy, 12, Victoria-street, Westminster, S.W. Deposit £5 5s.

MARCH 22.—**Warrington.**—GAS PLANT.—Construction of vertical retort installation, with coal and coke handling plant, for the Corporation. Mr. W. Newbigging, 3, Norfolk-street, Manchester.

MARCH 29.—**Birmingham.**—RESERVOIR.—Construction of covered service reservoir at Yardley Wood, for the Corporation. Mr. E. Antony Lees, Council House, Birmingham. Deposit £5.

APRIL 1.—**Prestonpans.**—HEATING.—For installation of heating apparatus in public school, for the Haddingtonshire E.C. Mr. R. D. Robinson, Education Offices, Haddington.

APRIL 7.—**Lochgelly.**—RAILWAY.—Construction of railway line to the housing site for the T.C. Mr. A. Lumsden, burgh surveyor, Lochgelly. Deposit £2 2s.

ROAD, SANITARY, AND WATER WORKS.

MARCH 6.—**Dartford.**—ROAD, &c.—Roads and sewers in connection with housing scheme for U.D.C. Surveyor, Council Offices, Dartford. Deposit, £2 2s.

MARCH 6.—**Kensington.**—ROADS AND SEWERS.—Laying out roads and construction of pipe sewers on housing site for the B.C. Borough Engineer, Town Hall, Kensington. Deposit £2 2s.

MARCH 6.—**Linthwaite.**—PAVING.—Paving with granite sets, etc., about 26,120 superficial square yards of road for the U.D.C. Mr. A. Mallinson. Surveyor, Linthwaite. Deposit £1 1s.

MARCH 6.—**Newburn.**—ROADS AND SEWERS.—Construction of about 3¼ miles of roads and sewers on Lessington and Throckley housing sites for the U.D.C. Mr. Thomas Gregory, surveyor, Council Offices, Newburn-on-Tyne Deposit 10s 6d.

MARCH 6.—**Rochford.**—SANITARY.—Removal of refuse and maintenance of sewage tanks at South Benfleet, for the R.D.C. Mr. W. H. Roberts, Clerk, 40, Clarence-street, Southend-on-Sea.

MARCH 8.—**France and Belgium.**—CEMETERIES.—Construction of 30 cemeteries in France and Belgium, for the Imprial War Graves Commission. Contract 20, Secretary (Works Branch), Imperial War Graves Commission, 6, George-street, Hanover-square, W.

MARCH 8.—**Glasgow.**—ROADS AND SEWERS.—Construction of roads and sewers in connection with (1) Greenhead, and (2) Kennyhill and Riddrie housing schemes. Director of Housing, Govan Town Hall, Glasgow.

MARCH 9.—**Heston and Isleworth.**—STREETS.—Construction of streets and sewers in connection with housing scheme of the U.D.C. Mr. J. G. Carey, surveyor, Council House, Hounslow. Deposit £2 2s.

MARCH 9.—**Llangefni.**—ROADS AND SEWERS.—Construction of roads and sewers for housing scheme of the U.D.C. Mr. J. Arfon Jones, architect, Llandudno. Deposit £2 2s.

MARCH 9.—**Newbiggin-by-the-Sea.**—SEWERS, &c.—Construction of sewer, &c, for the U.D.C., in connection with housing scheme. Mr. R. Appleby, surveyor, Council Offices, Newbiggin-by-the-Sea. Deposit £1 1s.

MARCH 10.—**Heysham.**—TRENCH WORK.—Excavating trenches and laying water main, for the U.D.C. Mr. H. Miller, surveyor, Council Offices, Heysham.

MARCH 11.—**Llantrisant.**—FOOTPATH.—Improvement to footpath, for the R.D.C. Mr. T. Saunders, School-street, Pontydur. Deposit £2.

MARCH 11.—**Staines.**—ROADS.—Resurfacing Southampton and Kingston roads with an asphaltic surface &c., for the U.D.C. Mr. E. J. Barrett, surveyor Town Hall, Staines. Deposit £2 2s.

MARCH 11.—**Tamworth.**—SANITARY.—Conversion of privies, &c., into water closets for the T.C. Mr. G. W. Shelley, sanitary inspector, Municipal Offices, Tamworth.

MARCH 11.—**Welshpool.**—ROADS AND SEWERS.—Construction of roads and sewers on the Waterloo site for the T.C. Mr. F. H. Shayler, architect, Gateway Chambers, Shrewsbury. Deposit £1 1s.

MARCH 12.—**Bedwas.**—ROADS.—Construction of roads and sewers at (*a*) Maesycwmmer School site, and (*b*) Machen Station site. Mr. D. J. Thomas, architect, Blackwood for (*a*), and Mr. A. S. V. Taylor, Council Offices, Bedwas for (*b*).

MARCH 13.—**Immingham.**—SEWERAGE.—New sewerage works for the Grimsby R.D.C. Mr. H. Hobson, surveyor, Deansgate, Grimsby. Deposit £5.

MARCH 15.—**Altrincham.**—SANITARY.—Conversion of 186 privies for the U.D.C. Surveyor, Town Hall, Altrincham.

MARCH 15.—**Dartford.**—Domestic hot water supply system and radiator heating of Infirmary Wards, Administrative Block and Nurses' Quarters at the Institution, West Hill, Dartford. Specifications, &c., can be seen at the office of Mr. Wingfield-Bowles, 28, Victoria-street, S.W. Deposit 3 guineas.

MARCH 15.—**Kincardineshire.**—ROADS.—Resurfacing 12 miles of roadway for the County Council. Mr. A. Forbes, County road surveyor, Stonehaven. Deposit £1.

MARCH 16.—**Farnworth.**—ROADS AND SEWERS.—Roads and sewers at housing site, for the U.D.C. Mr. W. J. Jones, 11, Fold-street, Bolton. Deposit £2

MARCH 18.—**Stratton and Bude.**—WATER MAINS.—Supplying and laying 1,846 lineal yards of cast-iron water main and fittings, for the U.D.C. Surveyor Bude.

MARCH 19.—**Chelmsford.**—GAS MAINS, &c.—Laying of gas mains and the installation of services on Boarded Barns housing estate, for the T.C. Gas Engineer, Gas Works, Springfield, Chelmsford.

MARCH 20.—**Maldon.**—ROADS, &c.—Roads and sewers for housing site of the T.C. Borough Engineer, Municipal Offices, Maldon.

MARCH 20.—**Maldon.**—WATER MAINS.—Providing and laying 3 in. water main in Cherry Garden-road, for the T.C. Borough Engineer, Municipal Offices, Maldon.

MARCH 22.—**Tilbury.**—SEWERAGE, &c.—Sewerage, flood prevention and tidal outfall works, carriageways, &c., in connection with housing scheme, for the U.D.C. Mr. S. A. Hill-Willis, engineer, Council Offices, 47, Dockroad, Tilbury. Deposit £10 10s.

✱MARCH 23.—**Ilford.**—ROADS AND SEWERS.—Construction of roads and sewers at Chadwell Heath and Barkingside, for the U.D.C. Mr. Herbert Shaw, M.I.C.E., Engineer and Surveyor to the Council.

Auction Sales, Tenders, &c.

MARCH 9.—**101 and 102, London-street, Bethnal Green, E. 1.**—Mr. Wm. F. Laing will sell screws, corrugated iron, nails, and portable coppers, &c.

✱MARCH 9.—**Plymouth.**—Sectional and non-sectional huts. Catalogues. Business Exchange, Drake Circus, Plymouth.

MARCH 10.—**Osterley Park.**—Huts and buildings of various sizes by direction of the Disposal Board. Catalogues from the auctioneers, Messrs. Weatherall & Green, 22, Chancery-lane, W.C. 2.

✱MARCH 10.—**Plymouth.**—Sectional and non-sectional huts. Catalogues, 27, High street, Salisbury.

✱MARCH 12.—**Leeds.**—Messrs. Geo. N. Dixon & Co. will sell reinforced concrete plant.

MARCH 12.—**Upper Room, Exchange Arcade, Lincoln.**—Messrs. T. B. Richardson & Son will sell the freehold property known as Swallowbeck Gravel Pits.

MARCH 16.—**Wellington, Somerset.**—Messrs. J. Hibbard & Sons will sell a stock of soft woods.

MARCH 17.—**Plym Bridge, S. Devon.**—Messrs. J. Hibbard & Sons will sell a stock of timber.

✱MARCH 17 AND 18.—**Ashdown Forest, Sussex.**—Messrs. Langridge & Freeman will sell huts and buildings.

✱MARCH 23.—**Aston, Shropshire.**—Messrs. Joseph Hibbard & Sons will sell stock of timber.

✱MARCH 23 AND 24.—**London, N.W.**—Tools (in lots to suit small buyers). Alisop & Co., 141, Park Road, Regent's Park, N.W. 8, auctioneers.

✱MARCH 24 AND 25.—**Sunbury.**—Messrs. Weathera & Green will sell, by direction of the Disposal Board, Ministry of Munitions, huts, plant and materials.

✱MARCH 23, 24 AND 25.—**Easteote, Northants.**—Messrs. Wise & Bowerman will sell by direction of the Disposal Board, Ministry of Munitions, 100 huts, building materials and R.E. stores.

✱MARCH 24.—**Pontesbury, Shropshire.**—Messrs. J. Hibbard & Sons will sell a stock of timber.

✱MARCH 25.—**London, N.W.**—Messrs. Dagnalls, Ltd., will sell at Dagnalls Wharf, Metropolitan Railway, Willesden Green, N.W. 2, traction machinery, &c.

MARCH.—**London, E.C. 4.**—Messrs. Dann & Lucas will sell, at the Cannon-street Hotel, E.C. 4. the freehold residential and agricultural estate known as "Farningham Hill."

Competitions.

(See Competition News, page 270.)

Public Appointments.

MARCH 8.—**Southampton.**—Clerk of Works for the county. Salary £156, with Civil Service War Bonus award £85, making a total salary of £240 12s.

✱MARCH 9.—**Uxbridge.**—Clerk of Works for the U.D.C. Salary £7 10s. per annum.

✱MARCH 10.—**Gravesend.**—Quantity Surveyors required for preparing Bills of Quantities for houses for the Town Council.

✱MARCH 10.—**Slough.**—Architectural Assistant (temporary) required by the U.D.C., for their housing scheme.

✱MARCH 11.—**London.**—Junior Architectural and Surveying Draughtsman for the Metropolitan Asylums Board. Salary at the rate of £100 per annum, rising by annual increments.

MARCH 11.—**Stroud.**—Architectural Assistant, for the U.D.C.

MARCH 13.—**Wisbech.**—Borough Surveyor, for the Borough Council. Salary, £375 per annum.

✱MARCH 15.—**Cumberland.**—Assistant for surveying and levelling, &c., for the County Council.

✱MARCH 15.—**Watford.**—Inspector of Buildings, Street and Sewers for the U.D.C. Salary £275 per annum.

✱MARCH 17.—**Sheffield.**—Temporary full-time lecturers for the University. W. M. Gibbons, Registrar, University, Sheffield.

✱MARCH 17.—**Southampton.**—(*a*) Qualified Architectural Draughtsman; (*b*) Accountant and Junior Quantity Surveyor required by the architect to the B.C. for work in connection with small holdings.

✱MARCH 18.—**Exeter.**—Clerk of Works for the City. Commencing salary £220 per annum.

✱MARCH 20.—**Bradford.**—Architectural Assistant, also Clerk of Works, required by the City Council. W. Williamson, City Architect, Town Hall, Bradford.

✱MARCH 22.—**Barrow-in-Furness.**—Temporary Architectural Assistant for the County Borough. Salary £5 per week, including War Bonus.

✱NO DATE.—**Cheshunt.**—Quantity Surveyors required by the U.D.C. for taking out quantities in connection with their housing scheme.

NOTES FROM THE FOREIGN PRESS.

RADIAL BRICK CHIMNEY 300 FT. HIGH.

THIS chimney, built for the British-American Nickel Corporation to be used in connection with smelting operations, needed unusual care in design and construction. Gases discharged contain from 3 to 4 per cent. of sulphurous acid, which on condensing collects on the top and sides of the structure. The chimney, of perforated radial brick type, is 300 ft. in height, of 25 ft. inside diameter at the top, and 27 ft. 6½ ins. at the bottom. The lower 50 ft., or pedestal, is of common shale brick laid on acid-proof mortar, and has walls of from 36 in. to 28 in. thick. The upper 250 ft. is built of perforated radial bricks, and is of annular section, varying in thickness from 26 in. to 13½ in. There is a perforated radial brick lining throughout, separated by a 2 in. space from the outer walls. Two flue openings 22 ft. 6 in. high, by 10 ft. wide, are provided, each at right angles to the other, the openings being reinforced by stout pilasters to make good the loss of section. The usual practice in chimney construction is to use mortar of one part cement, two parts lime, and five parts sand, but, having regard to the nature of the flue gases, fireclay was substituted for the lime. At each 20 ft. of height there are 3 in. by ¼ in. steel strap bands to resist circumferential stress. Inside and outside ladders are provided consisting of ¾ dia. U-irons at 15 in. centres. At 75 ft. and 170 ft. of height testing platforms are fixed, at which gas samples may be secured. The lining is carried upon corbels built out from the inside of the wall. These divide the lining into twelve sections, any one of which may be separately repaired without disturbing the remainder. The space left between the top of one section of lining and the corbel above is sealed by lead flashing to prevent the entry and condensation of flue gases behind the lining. The chimney top has a heavy sectional terra-cotta cap. The top of the shaft for 50 ft down, and the lining, is painted with silicate of soda. An acid-resisting lightning rod has been fixed. (J. G. Mingle, *Canadian Engineer.*)—*Technical Review.*

LAW REPORTS.

OFFICIAL REFEREE'S COURT.

(Before MR. POLLOCK.)

Builder's Claim for Military Recreation Hut.

In this case the plaintiff, Mr. Hector Geo. Morgan, builder, of 158, St. John's-road, Holloway, sought to recover from Miss Basset Popkin, superintendent of the Auxiliary Military Hospital, Holly Park, Crouch Hill, the balance (£122 11s. 8d.), of the contract price (£369), and extras in connection with the erection of a recreation hut at the voluntary aid hospital at Durham House, Crouch Hill.

Mr. Storey Deans, for the plaintiff, said that the defendant, after paying a portion of the money due, disputed the balance on the ground of various alleged defects in the work done, and thought it had not been carried out in accordance with the contract. She complained that the materials used were not of good quality, that the joinery and ironmongery were bad, and that there were various structural defects. Generally, it appeared from the defence, that the whole of the work was done as badly as possible, and it was surprising that the defendant had paid anything. About September, 1917, plaintiff was first asked to give an estimate for the erection of the room, and upon the estimate prescribed he was asked to carry out the work, and plans were submitted and approved and were eventually passed by the L.C.C. with certain alterations. One of the things complained of by defendant, was that a wood and felt roof had been supplied instead of corrugated iron, but this the plaintiff accounted for by the fact that the Minister of Munitions declined to let him have the corrugated iron. The roof supplied really cost more than corrugated iron. There was a complaint also that the roof leaked, and as to that, plaintiff was quite willing to make an allowance for the repairs. A more serious complaint was that the building was, according to the contract, to be 20 feet wide, whereas it was only 17 feet. If the building had been 20 feet wide it would have involved the cutting down of a holly hedge in the grounds, to which the ground landlord objected. The plaintiff had done the work as nearly as possible in accordance with the plans, and it was the defendant's business to obtain the permission of the ground landlord. The work had been delayed and rendered more costly by the men having to work quite close to a holly hedge. As to the complaint about the quality of the materials, the plaintiff would say that he obtained them from the merchant who had supplied him for years past, and the workmen employed on the job were all good and experienced men, but he admitted that defects might have arisen from the patients and others continually over-running the premises while the work was in progress.

The plaintiff gave evidence bearing out counsel's statement, and said that defendant had acquiesced in the departure from the plans owing to the action of the Minister of Munitions and the ground landlord, and told him to get on with the work.

The Official Referee found that the builder had not kept to the specification, and that the value of the building had thereby been depreciated. He therefore gave judgment for the defendant, with costs.

Trade Union Dispute.

IN this case, Hodges *v.* Webb, heard in the Chancery Division before Mr. Justice Peterson, an important question arose under the Trades' Disputes Act, 1906.

The plaintiff, an electrician foreman and a member of the National Association of Supervising Electricians, brought the action for an injunction to restrain the defendant, a secretary of the Electrical Trades Union, for wrongfully interfering, or attempting to interfere, with the plaintiff's employment and his right to dispose of his labour as he willed, and that the defendant should be restrained from continuing the acts complained of. Plaintiff complained that in October last year, when he was working for Messrs. Tyler & Freeman on a job at Delectaland, Watford, the defendant called the men out on strike because he (plaintiff) was not a member of the E.T.U., and that in consequence he lost his job.

Mr. Justice Peterson, in a considered judgment, said the N.A.S.E. was registered as a trade union, but it failed to obtain recognition by the Trades Union Congress, and it was apparent that the E.T.U. considered that there was ground for believing that the N.A.S.E. was under the influence of, or sympathised with, the employers in the electrical industry, and, rightly or wrongly, objected to its own members working with members of the N.A.S.E. The E.T.U. considered that the N.A.S.E. was not a genuine trade union, and that its members were on the same footing as non-unionists. In September, 1918, complaints were brought to the notice of the Watford Branch of the E.T.U. that non-unionists were employed by Messrs. Tyler & Freeman at Delectaland. In consequence of these and other complaints the London District Executive of the E.T.U. instructed the defendant to go to Watford to clear up any grievances. Defendant also had a general power to withdraw men from work. On October 13 the defendant had an interview with the plaintiff at Delectaland. In his lordship's opinion at that interview the defendant asked the plaintiff to join the E.T.U., which the plaintiff refused to do, and the defendant then told him that he would have to call the men off the job, and that they could not return unless the plaintiff was off the job. Defendant then told the men that as the plaintiff refused to join the E.T.U. he had no option but to ask them to cease work. With regard to the plaintiff's allegation that the defendant threatened to take away his livelihood if he did not join the E.T.U., his lordship came to the conclusion that the plaintiff's memory of the words actually used was not to be trusted. He thought, however, that defendant did tell the plaintiff that if he did not join the E.T.U. the same trouble would occur on any job on which he was employed. There was no suggestion that the defendant induced any breach of contract between the employers and the workmen, nor was there any allegation of conspiracy or unlawful combination. It was impossible to hold that Messrs. Tyler & Freeman were induced to dismiss the plaintiff by any statement made by the defendant to the plaintiff, for there was no evidence that any such statements were reported to Messrs. Tyler & Freeman. No one doubted that the men could have ceased work because they objected to working with the plaintiff or were entitled to refuse to return to work under the plaintiff. It was said that the decision in the case of "Valentine *v.* Hyde" compelled him to hold that the defendant was not prohibited by Section 3 of the Trades Disputes Act, 1906. As, however, there was in his lordship's opinion a trade dispute in this case it was unnecessary for him to consider the decision in the case cited. Upon the evidence it was impossible to find any threat which was a sufficient basis for an action. Threats and coercion were not protected by section 3, but a distinction must be drawn between a threat and a warning. Workmen were entitled to cease work for any reason, good, bad, or indifferent, and employers were entitled to decline to continue certain workmen in their employment for any reason, good or bad. It would be very strange that while workmen could cease work they could not in a body, or by one of themselves, or by one of the officials of their union inform the employers of the fact that they proposed to cease work and of their reasons for doing so without risking being sued for using threats or coercion. If the defendant had called out the men without speaking to the plaintiff, the plaintiff would have had no action against him, and his lordship was not prepared to say that because the defendant said that he would do something which he had a lawful right to do there was such a threat as rendered the defendant liable in an action by the plaintiff. Judgment was entered for the defendant with costs.

NEW COMPANIES.

The particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, 116 and 117, Chancery Lane, W.C.2, from the documents available at the Companies Registry :—

A. T. PADGET, LTD. (163,862.) Registered February 9. 38, Firth Park-road, Sheffield. Builders and contractors. Nominal capital, £2,000.

THOMAS BARLOW & CO., LTD. (164,037.) Registered February 13. 12, Beamvale-road, Nottingham. Builders and contractors. Nominal capital, £20,000.

T. BATH & CO., LTD. (162,909.) Registered January 16. 18, Savoy-street, Strand, W.C. Manufacturers of portable wooden and other buildings. Nominal capital, £2,000.

W. H. BELL & CO., LTD. (163,361.) Registered January 27. The Manor House, Hitchin, Herts. Builders, decorators and contractors. Nominal capital, £1,000.

BIRD & PIPPARD, LTD. (163,720.) Registered February 5. The Triangle, Yeovil, Somerset. Builders and contractors. Nominal capital, £10,000.

BRAY & ELTRINGHAM, LTD. (163,020.) Registered January 20. 1, Aire-street, Middlesbrough, York. Joiners, builders and contractors. Nominal capital, £5,000.

COMMERCIAL ESTATES (ASHTON-UNDER-LYNE), LTD. (163,859.) Registered February 9. 60, Wellington-road, Ashton-under-Lyne. Builders and contractors. Nominal capital, £15,000.

A. FRANCIS, LTD. (163,654.) Registered February 4. Builders and contractors. Nominal capital, £5,000.

J. K. HARTLEY, LTD. (164,351.) Registered February 21. 234, Fields New-road, Chadderton, Oldham. Builders and contractors. Nominal capital, £500.

LAUNCESTON BRICK & TILE CO., LTD. (164,119.) Registered February 16. Dutson, St. Stephens, nr. Launceston, Cornwall. Nominal capital, £7,500.

LEYLAND CONSTRUCTION CO., LTD. (162,717) Registered January 12. Builders and contractors. Nominal capital, £25,000.

BRADING CEMENT CO., LTD. (164,253.) Registered February 19. Brading, Isle of Wight. Nominal capital, £30,000.

RELIANCE BUILDING CO., LTD. (164,364.) Registered February 21. 6, Figtree-lane, Sheffield. To erect bungalows and other dwellings. Nominal capital, £6,000.

SWANAGE PORTLAND STONE CO., LTD, (159,948). Stanley House, Manvers-street. Bath, Somerset. Registered October 24, 1919. Nominal capital, £200.

WILLIAMS STRUCTURES, LTD. (161,593). Registered December 12, 1919. 28, Victoria-street, Westminster, S.W. Nominal capital, £200,000.

A New Issue.

Messrs. Eastwoods, Ltd., a company formed for the purpose of acquiring and extending the business of brick manufacturers, barge and wharf owners, and builders' merchants carried on for many years by Messrs. Eastwood & Co., Ltd., invite subscriptions for an issue of 260,000 £1 shares at par. The authorised capital is £300,000, and the remaining 40,000 shares will be allotted, fully-paid, to the vendors in part payment of the purchase consideration. Arrangements have been made for an output of 72 million bricks this year, and the total capacity of the concern is approximately 100 million bricks per annum, which it is proposed to increase to 125 millions. On an output of 72 millions, a profit of £41,400 is estimated, and a profit of £71,875 on the maximum output. In addition it is estimated that the merchants' business should show a profit of at least £15,000 per annum, and barge freights £7,500. The list closes on March 15. The prospectus will be found in our advertisement pages.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him *not later than first post on Wednesday.*

* Denotes *accepted.* †Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modifications.*

ALDRIDGE (STAFFS).—Erection of new wing, gymnasium, dormitory, &c. (cubic measurement, 95,000 ft.), at the R.A.O.B. Orphanage, G.L.E., Aldridge. Messrs. Norris E. Best & Son (Philip L. Best, Lic.R.I.B.A.), architects, Walsall :—

*W. Wistance, Walsall	£6,150
J. R. Deacon, Lichfield	6,575
Brockhurst & Wood, Walsall	6,376
W. Kendrick & Son, Walsall	6,320
A. G. Smith & Co., Aldridge	6,275
Samuel Wootton, Bloxwich	6,250
Robert Harris, Sheffield	6,196

BROMLEY.—Houses at Farnborough, Orpington and St. Mary Cray, for the R.D.C. :—

Starts hill, Farnborough (14 *houses*)—	
Macklin & Son, Old Kent-road	£21,956
Crossley & Sons, Bromley	21,474
Woodhams & Son, Bromley	12,700
J. W. Ellingham, Dartford	19,290
J. Elliman, Beckenham	16,764
Homefield-rise, Orpington (20 *houses*)—	
Macklin & Son	£31,767
Crossley & Sons	31,145
Ellingham	27,250
Woodhams & Son	25,960
H. Somerford & Son, Clapham	24,997
Elliman	23,800
Fordcroft, St. Mary Cray (20 *houses*)—	
Macklin & Son	£32,116
Crossley & Sons	31,557
Ellingham	27,900
Woodhams & Son	26,570
Somerford & Son	25,452
Elliman	23,954
Jones & Co., Greenwich	23,464

[Tenders forwarded to Ministry of Health.]

FOLESHILL.—(*a*) Erection of fourteen houses in Hen-lane, and (*b*) Laying of water near to site, for the R.D.C. :—

*(*a*) Murden & Shelton, Coventry	£11,360 0
*(*b*) P. Trentham, Ltd. Bedworth	147 10

ILFORD.—For laying surface-water drain in Cranbrook-road, for the U.D.C. Mr. Herbert Shaw, M.Inst.C.E., Engineer and Surveyor, Town Hall, Ilford :—

*R. Stroud, Ilford	£1,004 10 0

GUILDFORD.—Erection of new Diphtheria Block and a verandah to the Scarlet Fever Block at the Isolation Hospital, Woodbridge, for the Guildford, Godalming and Woking Joint Hospital Board. Mr. J. H. Norris, architect, 51, High-street, Guildford :—

*Bunnings & Fitton-Adams, Ltd., Godalming	£5,637

HESTON AND ISLEWORTH.—Alterations at the Council House, for the U.D.C. :—

*Dancio & Son, Hounslow	£165
T. W. Hiscock	459
W. R. Gray	344
Stephens & Hills	287
Larchel Bros.	257
W. Lacey	245
T. J. Horner	174

H.M. OFFICE OF WORKS.—*Building Works, &c.*—*Birmingham* : Ministry of Pensions Headquarters, alterations : J. E. Harper & Son, Ltd., Birmingham.—*Bristol* : erection of instructional factory : F. Chown, Bristol.—*Crystal Palace* : Temporary additions, &c. : Leslie & Co., Ltd., London, W.—*Edinburgh Castle* : Re-causeewaying : Wm. Dobson, Edinburgh.—*Edinburgh* : Erection of south side Sorting Office : Alexander Robb & Son, Edinburgh.—*Holborn Telephone Exchange*: Demolition of buildings on site : H. V. Base, London, E.—*Norwich* : Ministry of Pensions : Alterations, &c. : F. R. Hipperson, Norwich.—*Poplar* : Erection of houses : Griggs & Son, London, E.—*Rothamsted Experimental Station* : Alterations, &c. : E. C. Jarvis, Harpenden.—*Southend* : Employment Exchange, alterations, &c. : J. C. Flaxman, Southend-on-Sea.—*Stroud Post Office* : Extension : Arding & Hobbs, Ltd., London, S.W.—*Wrexham* : Adaptation of hostel : H. A. Jones, Wrexham.

Engineering Works—Plymouth : Ministry of Pensions Hutments, Hot Water Services : Edward Deane & Beal, Ltd., London, E.C.—*Supply of Engineering Labour in Daywork in the following Districts* : *Birmingham* : The Brightside Foundry and Engineering Co., Ltd., Birmingham.—*Bristol* : The Colston Electrical Co., Bristol.—*Edinburgh* : Mackenzie & Moncur, Ltd., Edinburgh.—*Glasgow* : Bennett & Rutherford, Glasgow.—*Liverpool* : A. Murray & Co., Liverpool.—*Manchester* : The Manchester Electrical Maintenance Co., Manchester.

LONDON (WEST HAM).—For extension to the X-Ray Room, Infirmary, Whipps Cross-road, Leytonstone, E. 11, for the West Ham Guardians. Mr. Francis J. Sturdey, F.R.I.B.A., architect, 45, Finsbury-pavement, E.C. 2.

Thos. Baker, Chingford	£2,650
T. W. Heath, Ltd., Kensington	2,340
Chilcott & Anstee, Ltd., Old Broad-street	2,287
W. Lawrence & Son, Finsbury-square	2,066
West, Brooks & Co., Walthamstow	1,589

ROMFORD.—Erection of houses, for the Romford R.D.C. Mr. L. A. Culliford, A.R.I.B.A., P.A.S.I., architect, 33, Furnival-street, Holborn, E.C. :—

MARCH GREEN, DAGENHAM, 196 HOUSES.

*National Improved Housing Co., Ltd.	£153,451
Sabey & Son	196,000
W. F. Blay, Ltd.	189,924
Unit Construction Co., Ltd.	187,727
Rice & Son	186,000
Robert Young's Construction Co., Ltd.	184,338
	179,90

PARK LANE, HORNCHURCH, 44 HOUSES

*National Improved Housing Co., Ltd.	£35,292
W. F. Blay, Ltd.	45,565
Davey & Meade,	45,018
Rice & Son	42,970
Edwards Construction Co., Ltd.	42,716
Unit Construction Co., Ltd.	42,469
Robert Young's Construction Co., Ltd.	41,690
Baker, Hammond & Leaver	41,580

CRANHAM, 14 HOUSES.

*National Improved Housing Co., Ltd.	£11,174
W. F. Blay, Ltd.	14,982
Rice & Son	13,849
Edwards Construction Co., Ltd.	13,429
Baker, Hammond & Leaver	13,286
Robert Young's Construction Co., Ltd.	13,269

SMETHWICK.—Erection of houses, for the Corporation :—

‡Whitehouse & Sons : 150 houses, on the "hy-rib" principle, at £955 each.
‡A. & S. Wheater, London : 150 houses, at £134,250.
‡Muirhead, Macdonald, Wilson & Co. : 250 houses, at £760 per house, plus 10 per cent.
‡Recommended. Conditions are attached limiting the contractors' profits if the cost exceeds certain figures.

TENDRING.—Erection of houses for the Tendring R.D.C. Messrs. Tyler & Atkinson, MM.S.A., architects, 37, The Broadway, Ealing, W. 5 :—

Eight houses at Frating-green :—

	Per house.
W. J. Vaughan, Colchester	£853 19 6
W. Green, Frinton-on-Sea	919 6 5
S. A. Roper, Ipswich	1,243 11 0

Mr. Vaughan's amended tender for £716 per house accepted.

Six houses at Thorrington :—

W. J. Vaughan, Colchester	£747 6 8
W. Green, Frinton-on-Sea	757 18 4

Mr. Vaughan's amended tender for £735 per house accepted.

TIVERTON.—Erection of 22 houses, for the T.C. :—
*British Construction Co... per house £681

WHITSTABLE.—For 1,176 yards of 9-in. stoneware pipe sewers in Whitstable-cum-Seasalter, for The Blean U.D.C. Mr. F. A. Ward, Engineer, Blean Union, Herne Common, Herne :—

*Roads and Public Works, Ltd., Westminster	£1,910 15 6
Charles Carter, Golders Green	3,359 0 0
Howard Farrow, Brixton	2,979 14 9

Purchase of Working-Class Houses.

The Ministry of Health has issued a model form of agreement for the purchase by local authorities, under section 12 (3) of the Housing Act of 1919, of houses suitable for the working classes. It is desired that this model should be used in all cases where it is applicable, with any adaptations that may be necessary. The model provides for the completion of the houses by a date or dates to be specified and provision is made for the payment of a bonus for completion before the stipulated time. It also provides for adjustment in the event of any increase of wages during the currency of the contract, and there is a "break clause" which enables the builder to determine the contract after the completion of a specified number of houses.

A Reunion.

A reunion concert to welcome back the employees of Messrs. Waygood-Otis, Ltd. who joined H.M. Forces during the war was held at the London Scottish headquarters on February 28. Invitations had been issued to about 200 ex-service men who, with their friends and others, made a gathering of about 600. Mr. H. Claude Walker, chairman of Waygood-Otis, Ltd., presided, and was supported by the other directors, namely, Messrs. D. W. R. Green, C. Clarke, R. H. Thorpe, H. Harmsworth, and C. H. J. Day. The band of H.M. Royal Horse Guards (Blues) played selections, and a musical programme was organised by Mr. Emile Burnel. It might be mentioned that 485 of the company's employees joined H.M. Forces during the war.

PRICES CURRENT OF MATERIALS.*

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. Since our last issue several prices have been revised.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge. £ s. d.
Best Stocks 4 10 0

Per 1000, Delivered at London Goods Stations.

	£ s. d.		£ s. d.
Flettons	3 2 6	Best Blue Pressed Staffordshire ...	9 11 0
Best Stourbridge Fire bricks	11 10 0	Do. Bullnose ..	9 13 6
		Blue Wire Cuts	7 18 6
GLAZED BRICKS—			
Best White, Ivory, and Salt Glazed Stretchers ..	24 0 0	D'ble Str'tch'rs D'ble Headers One Side and two Ends ..	31 10 0 / 28 10 0 / 32 10 0
Headers	23 10 0	Two Sides and one End	33 10 0
Quoins, Bullnose and 4½in. Flats	29 10 0	Splays and Squints	31 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

	s. d.	
Thames Ballast	19 6	per yard, delivered
Fit Sand	22 6	
Thames Sand	25 6	2 miles
Best Washed Sand	24 6	radius
1 in. Shingle for Ferro-Concrete	23 6	Paddington.
¾ in. ,, ,,	24 6	,, ,,

For ton, delivered in London area.

	£ s. d.	£ s. d.
Best Portland Cement	3 18 6 ..	4 4 0

71/6 alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above. 5 0
Best Ground Blue Lias Lime 2 16 0 at rly. depot.

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks. The sacks are charged at 2s. 6d. each and credited at 2s. each if returned in good condition within three months.

Grey Stone Lime ..... 61s. 0d. per ton delivered.
Stourbridge Fireclay in s'cks 42s. 6d. per ton at rly. dpt.

STONE.

BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube..... s. d. 2 2½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube 2 4
Do. do. delivered on road waggons at Nine Elms Depot 2 5

PORTLAND STONE—
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Mileage Station G.W.R., per ft. cube 4 3
Do. do. delivered on road waggons at above stations, per ft. cube.. ..... 4 4
White basebed, 3d. per ft. cube extra.
NOTE.—½d ft. cube extra for every foot over 30 ft. average, and ½d. beyond 30 ft.

YORK STONE, BLUE—*Robin Hood Quality.*
Delivered at any Goods Station London. s. d.
Scappled random blocks .....Per Ft. Cube 11 9
6 in. sawn two sides landings to sizes (under 30 ft. super.) .....Per Ft. Super 3 1½
6 in. rubbed two sides, ditto ..... ,, 9 1½
8 in. sawn two sides slabs (random sizes) ,, 3 7½
2 in. to 2½ in. sawn one side slabs (random sizes) ..... ,, 2 2
1½ in. to 2 in. ditto, ditto ..... ,, 1 10

HARD YORK—
Delivered at any Goods Station London.
Scappled random blocks .....Per Ft. Cube 8 9
6 in. sawn two sides landing to sizes (under 40ft. super.) .....Per Ft. Super 7 0
6 in. rubbed two sides ditto ..... ,, 8 2
4 in. sawn two sides slabs (random sizes) ,, 3 3
3 in. ditto, ditto ,, 4 4
2 in. self-faced random flags ..Per Yard Super 10 6

WOOD.

GOOD BUILDING DEAL.

Inches	£ s.	
4 x 11	60 0	per standard
4 x 9	48 0	,,
4 x 8	40 0	,,
4 x 7	46 0	,,
3 x 8	46 0	,,
3 x 7	46 0	,,
2½ x 7	46 0	,,
3 x 6	45 0	,,
2 x 11	60 0	,,
2 x 11	60 0	,,
3 x 9	52 0	,,
3 x 9	52 0	,,
3 x 4½	45 0	,,
3 x 4	45 0	,,

PLANED BOARDS.

1 x 11	65 0	,,
1 x 9	50 0	,,

PLAIN EDGE FLOORING.

Inches	
½	34/- square
⅝	40/- ,,
¾	44/- ,,
1	55/- ,,
1¼	64/- ,,

TONGUED AND GROOVED FLOORING.

Inches	
½	42/6 square
⅝	46/6 ,,
¾	50/6 ,,

WOOD (*Continued*).

MATCHINGS (BEST).

Inches	
½	34/- square
⅝	40/- ,,
¾	54/- ,,

BATTENS.

Inches	£ s.	
½ × 2	39 10	per standard

SAWN LATHS.

Per bundle ..... —

Dry Wainscot Oak, per ft. super, as inch	0	2	6	to	0	3 0
¾ in. do. do.	0	2	0	to	0	2 6
Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch	0	2	6	to	0	3 0
Cuba, Mahogany	0	3	6	to	0	4 0
Teak (Rangoon, Moulmein or Java), per load.. ..	60	0	0	to	85	0 0
American Whitewood planks, per ft. cube ..	0	18	0	to	1	0 0
Scotch Glue, per cwt.	5	5	0	..		—
Liquid Glue, per gallon ..	0	17	0	..		—

SLATES.

1st quality slates from Bangor or Portmadoc in truck load delivered London area. Per 1,000 of 1,200.

		£ s. d.
Best Blue Bangor Slates,	24 by 12	55 0 0
,, ,, ,,	22 by 12	44 7 6
First quality ,,	22 by 11	40 15 0
,, ,,	20 by 12	40 7 6
Best Blue Portmadoc	20 by 10	35 0 0
,, ,,	18 by 10	27 17 6
First quality ,,	18 by 9	22 15 0
,, ,,	16 by 10	21 10 0
,, ,,	16 by 8	16 17 6

TILES.

	Per 1,000 f.o.r. London. £ s. d.
Best machine-made tiles from Broseley or Staffordshire district.....	6 15 0
Ditto hand-made ditto.....	7 0 0
Ornamental ditto	7 2 6
Hip and valley tiles (per dozen)	0 15 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

	s. d.
R. S. Joists, cut and fitted	29 0 0
Plain Compound Girders	31 0 0
,, Stancheons	33 0 0
In Roof Work	38 0 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £10 net value delivered direct from works. 5 per cent. less carriage forward if sent from London stocks.)

	Sizes up to and including 2 in. Tubes.	Fittings.	Sizes 2½ in. to 6 in. Tubes.	Fittings.
Gas	10	12½	12½	25
Water	1½	7½	5	22½
Steam	+8½	—2½	+3½	—20
Galvanised Gas ..	+15	—2½	+12½	—15
,, Water	+26½	+2½	+22½	—12½
,, Steam	+37½	+7½	+32½	—10

L.C.C. COATED SOIL PIPES—London Prices ex works.

	Pipe. s. d	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6 fts..	5 6	4 0	4 10
2½ in. ,, ..	6 8	4 5	6 0
3 in. ,, ..	8 1	4 10	7 3
3½ in. ,, ..	9 0	6 0	8 5
4 in. ,, ..	9 6	6 10	9 8

RAIN-WATER PIPES, &c.

	Pipe. s. d.	Bends, stock angles. s. d.	Branches, stock angles. s. d.
2 in. per yd. in 6fts. plain	4 0	2 3	3 0
2½ in. ,, ,, ..	4 6	2 8	3 8
3 in. ,, ,, ..	5 6	3 3	4 10
3½ in. ,, ,, ..	6 6	3 10	5 8
4 in. ,, ,, ..	6 9	4 6	6 10

L.C.C. DRAIN PIPES,—9 ft. lengths. London Prices. 4 in., 12s. .. 5 in., 15s. .. 6 in., 18s.

IRON—	£ s. d.		£ s. d.
Common Bars	25 0 0	to	29 0 0
Staffordshire Crown Bars—good merchant quality	29 0 0	..	30 0 0
Staffordshire "Marked Bars"	31 10 0	..	32 10 0
Mild Steel Bars	28 0 0	..	30 0 0
Steel Bars, Ferro-Concrete quality, basis price ..	28 0 0	..	30 0 0
Hoop Iron, basis price ..	32 0 0	..	34 10 0
,, ,, Galvanised ..	50 0 0	..	54 0 0
Sheet Iron Black—			
Ordinary sizes to 20 g. ..	39 0 0	..	40 0 0
,, ,, 24 g. ..	40 0 0	..	41 0 0
,, ,, 26 g. ..	42 0 0	..	43 0 0
Sheet Iron, Galvanised flat, ordinary quality—			
Ordinary sizes, 6 ft. by 2 ft. to 7 ft. to 20 g. ..	50 0 0	..	52 0 0
Ordinary sizes to 22 g. and 24 g.....	51 0 0	..	52 0 0
Ordinary sizes to 26 g. ..	52 0 0	..	54 0 0
Ordinary sizes to 20 g. ..	50 0 0	..	52 0 0
,, ,, 22 g. and 24 g.	51 0 0	..	53 0 0
Ordinary sizes to 26 g. ..	53 0 0	..	54 0 0

METALS (*Continued*).

	Per ton in London. £ s. d.		£ s. d.
Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 8 ft. 20 g.....	50 0 0	..	52 0 0
Ordinary sizes, 22 g. and 24 g.....	51 0 0	..	52 0 0
Ordinary sizes, 26 g.	53 0 0	..	54 0 0
Sheet Iron, Galvanised, flat, best quality—			
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker.....	52 0 0	..	53 0 0
Best Soft Steel Sheets, 22 g. and 24 g.....	53 0 0	..	54 0 0
Best Soft Steel Sheets, 26 g.	54 10 0	..	55 10 0
Cut Nails, 3 in. to 6 in.	37 10 0	..	38 10 0

(Under 3 in. usual trade extras.)

LEAD, &c.

Delivered in London.

	£ s. d.		£ s. d.
LEAD Sheet, English, 4 lb. and up	65 10 0	..	—
Pipe in coils	66 0 0	..	—
Soil Pipe	66 10 0	..	—
Compo pipe	69 10 0	..	—

NOTE—Country delivery, 30s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills ..... per ton	46 10 0	..	—
Do., ex country, carriage forward..... per ton	47 10 0	..	—

COPPER—

Strong Sheet ....per lb.	0 2 3	..	—
Thin .. .... ,,	0 2 4	..	—
Copper nails .... ,,	0 2 3	..	—
Copper wire .... ,,	0 2 4	..	—
TIN—English Ingots ,,	0 4 0	..	—
SOLDER—Plumbers' ,,	0 1 10	..	—
Tinmen's..... ,,	0 2 6	..	—
Blowpipe ..... ,,	0 2 11	..	—

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES

Per Ft.		Per Ft.
15 oz. fourths	7½d.	32 oz. fourths .... 10½d.
,, thirds	8d.	,, thirds ..... 11½d.
21 ,, fourths	8½d.	Fluted, Obscured and
,, thirds	8½d.	Enamelled Sheet,
26 ,, fourths	9½d.	15 oz. 9½d.
,, thirds	10½d.	21 ,, 11½d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES. Per Ft.

⅛ Rolled plate	5½d.
⅙ Rough rolled and rough cast plate.....	6½d.
¼ Rough rolled and rough cast plate.....	6½d
Figured Rolled, Oxford Rolled, Baltic, Oceanic Arctic, Stippolyte, and small and large Flemish white	6½d.
Ditto, tinted	8½d.
Rolled Sheet	6d.
White Rolled Cathedral.....	8d.
Tinted do.	9½.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil in pipes..... per gallon		0 12 0
,, ,, ,, in barrels .... ,,		0 12 3
,, ,, ,, in drums .... ,,		0 12 5
Boiled ,, ,, in barrels .... ,,		0 12 9
,, ,, ,, in drums .... ,,		0 12 11
Turpentine in barrels ..... ,,		0 18 3
,, in drums (10 gall.) ... ,,		0 18 9
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		90 15 0
GENUINE WHITE LEAD PAINT— "Nine Elms." "Park." "Supremus," and other best brands (in 14 lb. tins) not less than 5 cwt. lots.. per ton delivered		123 5 0
Red Lead, Dry (packages extra) .. per ton		75 0 0
Best Linseed Oil Putty ..... per cwt.		1 11 3
Filocel..... per cwt.		0 18 0
Size. X D Quality..... ,,		0 6 6

VARNISHES, &c.

	Per gallon. £ s. d.
Oak Varnish.....Outside	0 18 0
Fine ditto ..... ditto	1 0 0
Fine Copal ..... ditto	1 1 0
Pale Copal ..... ditto	1 2 6
Pale Copal Carriage ..... ditto	1 4 6
Best ditto ..... ditto	1 14 6
Floor Varnish..... Inside	0 19 0
Fine Pale Paper ..... ditto	0 18 0
Fine Copal Cabinet ..... ditto	1 2 6
Fine Copal flatting ..... ditto	1 0 0
Hard drying Oak ..... ditto	0 18 0
Fine Hard drying Oak ..... ditto	0 19 0
Fine Copal Varnish ..... ditto	1 0 6
Pale ditto ..... ditto	1 2 6
Best ditto ..... ditto	1 14 6
Best Japan Gold Size.....	0 16 0
Best Black Japan	0 19 0
Oak and Mahogany Stain (water)	0 10 0
Brunswick Black	0 11 0
Berlin Black.....	0 16 0
Knotting (patent)	1 18 0
French and Brush Polish	1 11 6
Liquid Dryers in Terebine	0 19 0
Quinas Black Enamel	0 7 0

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

TRADE NEWS.

Messrs. Wm. Moore & Co., of 1, Lauderdale-buildings, Aldersgate, E.C.1, remind us that they have a large stock of dust cover sheets in six sizes, from 6 ft. by 6 ft. to 12 ft. by 12 ft., ready hemmed. Also stocks of chamois leathers, sponges, dusters, tarpaulins, etc.

A "super-cinema," just completed and opened at New North-road, Islington, contains many novel features, amongst others being the unique design whereby the operator's chamber is constructed between the rear hall ceiling and the balcony floor. The heating and ventilation is on the principle whereby the air is washed and warmed before entering the building. The works were executed by Messrs. E. A. Rooms & Co., Ltd., of Hackney, to the designs and under the supervision of the architect, Mr. Henry Smith, M.S.A., Q.S.A., of 37, High Holborn, W.C. 1.

"Bareau" is the name of a new cement waterproofing placed on the market by Messrs. Building Products, Ltd. (44–46, Sloane-square, S.W. 3). The material is in the form of a powder, which, when mixed with cement, fills the voids, with the result that the concrete becomes impermeable to water. It is stated that concrete in which this is used is made stronger, and becomes slightly lighter in colour. It is claimed that a three-to-one mixture of cement mortar with "Bareau" added is more certain of being waterproofed than a neat cement. The material is recommended for use in the construction of all building work wherein cement or concrete is used.

The application to interior decoration of the products of Messrs. Lewis Berger & Sons, Ltd. (Homerton, E. 9), are demonstrated at the British Industries Fair (Birmingham) by four rooms in miniature carried out in colour schemes prepared by the firm. The ceilings and walls are in "Matone" flat oil paint, the woodwork in "Enamelac" white enamel and "Scrumble" graining colour under "Berger" varnish. All the decorative schemes embody applied stencils from the "Berger" range of registered stencil designs. In addition to this exhibit, the uses of "Berger" paints and varnishes for other purposes are shown.

The Economic Building Corporation, Ltd., who are specialising in housing contracts and who are stated to have work valued at £2,500,000 to commence, are about to enlarge their capital to at least £1,000,000 in order to cope with the work. In addition to municipal housing schemes, this Corporation is purchasing suitable estates adjoining large towns and proposes to develop them on lines which will appeal to the middle classes. It also has contracts for housing work on the Continent, which will be available when rates of exchange are more favourable.

PATENTS.

APPLICATIONS PUBLISHED.*

138,005.—J. McMillan: System of scaffolding.

138,018.—A. M. Simpson: Glazing roofs.

138,025.—R. W. Southern: Machine for stacking timber.

138,034.—G. Hutchinson: Structural members for girders and columns.

138,159.—G. Coe: Construction of concrete walls and other structures.

138,161.—J. S. Baines: Slab walls, buildings, and fences.

138,164.—C. W. Tonks, G. A. Tonks, A. G. Tonks and F. W. Taylor: Construction of fanlight fasteners or catches, and such like fasteners or catches used for other purposes.

138,165.—A. B. Swales: Cases having series or sets of sliding drawers for containing documents.

138,168.—J. J. A. Roe: Ventilators.

138,171.—G. F. Gillan: Bolts, rivets and nuts.

* All these applications are now in the stage in which opposition to the grant of Patents upon them may be made.

BOOKS.

The Acts Relating to the Income Tax. By the late Stephen Dowell, M.A., and J. R. Piper (Barrister-at-law). Eighth edition. (London: Butterworth & Co. Price 4s. net.)

This volume, familiarly known as "Dowell's Income Tax Laws," has been brought up-to-date and enlarged to 744 pages, with a comprehensive index covering 113 pages. It includes the Consolidating Act, 1918, and the unrepealed provisions of other Income Tax Acts. The decisions on cases relating to income tax have been retained, and subsequent decisions up to June, 1919, have been added. This volume is the official work on income tax, and is almost indispensable to those concerned with the subject to any large extent.

Local Development Law. By H. C. Dowdall, Barrister-at-Law. (London: T. Fisher Unwin, Ltd. Price, 10s. 6d. net.)

The object of this book is to explain the whole of the legal aspect of housing, town-planning, roads, &c., within the limits of one volume. There are at present eighteen-hundred local authorities engaged upon the preparation or carrying-out of housing schemes, and, therefore, many thousands of councillors, officials and others, to whom a book which gives in a readable form the essence of the innumerable Acts and memoranda which have been issued by the authorities for their use and guidance will be welcome. The Ministry of Health has published a few pamphlets, explaining some of the more complex provisions; but this volume covers the whole subject and includes chapters on the Housing Acts, public utility societies and housing trusts, roads and communications, public grounds and buildings, schemes under the Town-planning Acts, and the acquisition of and.

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